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ENQUIRIES SOLICITED FOR HARD AND SOFT WOOD
JOINERY

THE BUILDER

A RECORD OF ARCHITECTURE AND CONSTRUCTION.

WITH WHICH IS INCORPORATED THE "BRITISH ARCHITECT."

VOL. CXIX.—No. 4047. AUGUST 27, 1920.

THE UNIFICATION OF ARCHITECTS.

THERE has been a gradual change in the character of the Royal Institute of British Architects since its inception as a centre where all could associate who are interested in "Civil architecture and the various arts and sciences connected therewith." Although in the passage of time it has undergone considerable expansion, the Institute has not been found to satisfy all the needs of architects, the natural corollary being the creation of other societies to deal with those matters which have not received the attention they have been thought to deserve. Some of these societies, built up after years of careful study and development, have done yeoman service and achieved splendid results. But there is still much to be done if architects are to keep abreast of the times.

The first step to be taken in any new development is generally acknowledged to be union. The inadequate contact which has existed hitherto has led to difficulties, if not differences, and at the same time, has caused confusion in the mind of the public, so that the full possibilities of development have not been attained. Some new liaisons are required whereby the whole body of architects may be directed and controlled individually and collectively to enable their abilities and value to be made apparent and brought into useful service. The position seems now to be fully appreciated by the Royal Institute of British Architects. At last, it has taken action, and we may expect something to be done. The Royal Institute of British Architects holds an unequivocal position. Its prestige and status are a source of genuine satisfaction to all architects, and it is recognised as being entitled to act as representative of the profession. At the Special General Meeting of that body held last March, the members gave their sanction to the proposals of the Council for unification and registration. In his presidential address, Mr. Simpson referred to the necessity for satisfying the universal desire for internal unison, and stated that no mere majority vote would satisfy the objects of architects, but that unanimity must be attained. On July 20, at a meeting of the Unification Committee, two definite proposals were advanced: (*a*) The absorption of all existing societies into one body, and (*b*) the retention of all existing bodies and the formation of a special body for carrying out registration. Ultimately, a resolution was unanimously adopted: "That it be referred to a sub-committee to draft and submit to the main committee schemes based on (*a*) Absorption, and (*b*) Federation." At this meeting the representatives of the Society of Architects gave the impression that they favoured Federation, presumably with a view to preserving some independence for their own militant body. Moreover, their President suggested a comprehensive scheme to embrace a much wider field than architecture alone—a larger problem, which, however desirable, hardly yet enters into the sphere of practical politics.

The position is a critical one for all the societies, as whatever happens a transference of power must take place to a body which, when existent, must accommodate its constitution to new conditions and altered circumstances. Indeed, many changes are bound to follow the large acquisition of members which must ensue. Therein lies the danger. The absorbing body can hardly be expected to retain its original characteristics, even if that were desired. On the other hand, should a Federal Council be created to manage the mundane affairs of architects, the problem of the duties and powers to be conferred upon it will have to be determined. If it merely act in an advisory capacity, then any society in the Federation would be free to do as it pleased, a position which might be productive of wholesome rivalry, but which might also conduce to bitter enmity and be detrimental to future harmony. Federation would require the existing societies to forego some of their powers, with which to endow a new Federal Council. This would entail serious sacrifices, and the Royal Institute of British Architects would be greatly affected by the change, even should its traditions and treasures remain undisturbed. But almost any sacrifice will, we believe, be submitted to which is going to advance the well-being of architecture and architects.

Much is being made of the unity attained in other professions, but we are disposed to the opinion that these, in many instances, illustrate the dangers and disabilities of professional union as much as the benefits to be derived therefrom. We trust that architects will apply their constructive abilities to better purpose and devise a more liberal and far-seeing union than that which has been achieved in some of the other professions.

We believe that the bond which will bring most of the members together is registration, but although this, as a practical measure, may affect the status of certain individuals and may even give some protection from unprofessional competition, in itself it can do little to enhance public recognition and public appreciation. It should never be forgotten that merit is the true road to success; good men are wanted in the profession and nothing should be permitted that restricts the influx of those who have been gifted from birth with creative ability—the stamp which marks them *par excellence* for the practice of architecture. A professional union which is prompted by merely selfish interests can have no permanence. A true architect knows there is no limit to his endeavour—that the best of his effort must ever be a labour of love. Unity, to be effectual, must add power and momentum to the unified body, must make it alert to the changing needs of each day and generation, and, above all, keen in reconciling the interests of the public with the well-being of architects.

We desire to congratulate the Unification Committee upon the publicity being given to the discussions which are taking place. Every architect interested in the future of his profession will carefully follow the published reports, for only thus can the difficulties of the problem be appreciated and a wise solution ultimately reached. By publicity alone can that unanimity be attained which the President of the R.I.B.A. has so wisely pronounced as an indispensable attribute of unity.

NOTES.

More Obstruction.

IT might have been thought that the folly of placing needless obstructions in the way of local authorities who are endeavouring to expedite their housing schemes in the face of immense difficulties would, by this time, have been patent to every one. Yet this does not appear to be so. We will not, at the moment, enter into the merits of direct labour as compared with the more usual methods of conducting building operations, but no system can succeed under the heavy hand of the statistical fanatics who seem to make it their business to beset any authority who is sufficiently intrepid to embark on a direct labour scheme. An instance has recently been brought to our notice in which the Engineer to a large Borough, just when he imagined that he was at last well upon the road to circumvent his difficulties, received a severe set-back in the form of a bundle of documents and forms from the Ministry of Health, which he was required to read and to fill in. Everyone recognises the necessity for employing a proper costing system which will enable an accurate record of the work and its cost to be kept continually up to date; but a demand to supply a mass of information setting forth the progress of the work in all sorts of intricate ways is sufficient to exasperate even the most patient municipal authority. The progress and cost is to be shown not only upon a number of forms, but by elaborate graphs. Indeed, it would seem that most borough engineers—whose work and responsibility extend to other matters than housing—will be obliged to employ a special assistant to carry out this work. Thus, upon the already breaking shoulders of the tax-payers may be placed the salary of another assistant, whose sole task it will be to satiate the morbid craving of high officials for endless figures and statistics, both numerical and graphical, with which to adorn the walls and, we think, eventually to fill the waste-paper baskets of their offices.

Prato Cathedral Pulpit. By MINO DA FIESOLE.

Stone for Westminster Abbey.

MR. J. ALLEN HOWE, Curator of the Museum of Practical Geology, in a letter to *The Times*, says: "We are just now shocked at being reminded of the Abbey's state of decay, so we provide funds that will enable its guardians to replace the decayed stone by new stone that will suffer in the same way as the old. If we dipped a little deeper into our pockets, funds might be raised that would allow of the employment of a stone of much greater durability and not inharmonious in appearance—for example, the granite of Carnsew or Delank. My point is that if greater durability is honestly desired it can be attained by paying the cost." It is further pointed out as being doubtful whether any sandstone used in London has behaved uniformly better than Portland stone.

Building for Posterity.

MR. HOWE also remarks very pertinently: "As regards permanence, the fact must be faced that, though we may wish to build for remote posterity, in this country, with the architectural features we have adopted, we cannot do so. Repairs will be needed in the next generation whenever construction may be undertaken. Our duty with national buildings is to build them as well as we can for the present, and see that funds are provided for their proper maintenance in the near future. If a long view is taken, it must be realised that stone has to be renewed just as certainly as a coat of paint. It is only a question of degree. When, in the course of time, we secure in our towns an atmosphere less acrid and destructive than that we now suffer, the life of the stones will be prolonged, but not indefinitely; for in the forms that are given to our buildings and the ornaments with which they are embellished we invite local decay. In choosing stone as a building material we are actuated by tradition, by sentiment, and by our æsthetic sense. As a matter of fact, we could find other material quite as permanent if this quality were to be the sole criterion. In the choice of a particular stone we are influenced by its qualities, including its appearance, and by its cost; and as often as not cost has the last word."

London University Site.

THE further correspondence on the site for a London University shows that plenty of argument can be advanced for a variety of sites. The ideal site is probably not likely to be found, but it is well to hear all sides.

Sketch of a Modern Fountain.

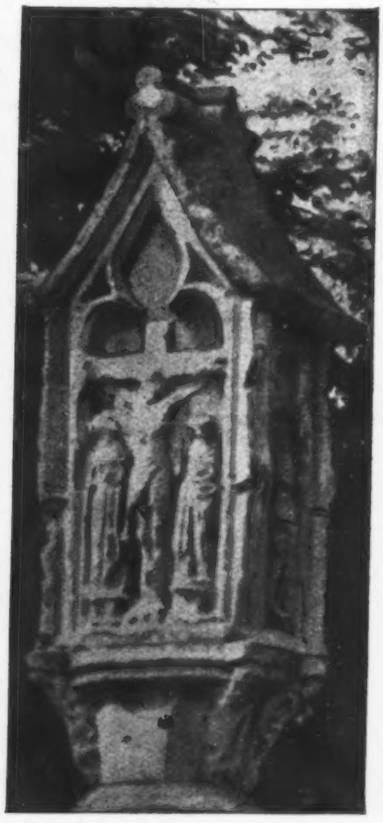
In a defence of the Bloomsbury site, Mr. Holt writes: "It is very strange to find a scholar attaching so little importance to the proximity of the great national treasure-house of learning; but, passing over this, it is to be noted that there is room on this site for the central administrative buildings, for a library, for quarters for a students' union, and for King's College. A deputation representing the King's College delegacy informed the Minister of Education that they were desirous of moving to this site, if enough room were allowed for the expansion of the College. It seems, therefore, hardly accurate to say that 'the support for the Bloomsbury site comes largely from those who wish the central buildings to be adjacent to University College.' Lord Dawson asks: 'Is it not obvious that a university needs space?' There is sufficient space on which to place the buildings named above, as soon as the money is likely to be forthcoming. Further, it is known that about 45 acres of land in the immediate neighbourhood will come into the market at varying dates during the next 30 years. It should be a condition of the purchase of the site that options should be secured on this land. There would then be time to collect money for its purchase, and there would then be room for developments of the University not unworthy of the metropolis."

City Patriotism in New York.

The League for Political Education, New York, is building a City Hall for public meetings. In the *Bulletin* of the League for February, 1920, is a description of the stone-laying ceremony on January 24, from which we take the following interesting remarks: "It was eloquent evidence of the strong hold the League has on its members and friends that in spite of the bad weather — the worst of the winter thus far—a large audience gathered in the Hippodrome an hour earlier than the customary time of beginning League lectures; many walked in rain and slush to see Colonel Roosevelt lay the corner-stone, and the attendance at the luncheon was astonishing. 'What kind of an organisation is this that can bring out such an immense crowd on such a day?' asked one of the non-member guests, in amazement. About $150,000 was given, nearly all by League members, at the beginning of the campaign to secure $1,250,000 in gifts so that the new building may be dedicated free from debt. . . . When our beautiful new building is finished and entirely paid for, it will be a source of lasting pride to every one who can say: 'This was partly my work. I helped to make possible this Civic Auditorium. I will always have my share in the larger and larger influence for good it will have.' The Civic Auditorium, when dedicated, must be free from debt, if it is to fulfil its public mission. There must be no income-producing necessity to compel renting the Auditorium on a commercial basis if it is to be used as a Town Meeting Hall."

The Crystal Palace.

It has probably often occurred to those interested in building that the structure of the Crystal Palace has done duty pretty well during its nearly seventy years of existence, but the authorities there considered it advisable to strengthen the great central arch, and this has just been completed. Working upwards from the bottom, the Engineering and Contractor's staff have accordingly put up a series of steel stanchions to a height of 120 ft. On top of these they have bridged the arch with a steel girder 90 ft. wide. Further steel supports on top of this carry the total height to 180 ft. Altogether over 80 tons of steel have been used, and the difficult task of raising this mass of material to the height required has been successfully accomplished. When the work is completed the whole arch will be strengthened by an elaborate and intricate steel support, which, however, will not be visible from the outside, so that the outward effect will still be that of a "Crystal Palace."



From "Old Crosses and Lychgates," by A. Vallance.

Churchyard Cross at Ampney Crucis, Gloucestershire. (*See page* 220).

"OLD CROSSES AND LYCHGATES."*

THIS is a handsome volume of 216 pages, bound in grey cloth, and contains 237 illustrations printed in sepia, with a typographical list of subjects, preface, bibliography and index. It traces the evolution of the churchyard cross from the early monolith type, through the shaft-on-steps type on to preaching and market crosses. Another section is devoted to lychgates. The illustrations, which are very numerous and representative, are mostly reproduced from photographs, in some cases with plan and elevation added. A few from old drawings and engravings have an interest of their own in addition to their value as illustrating particular examples.

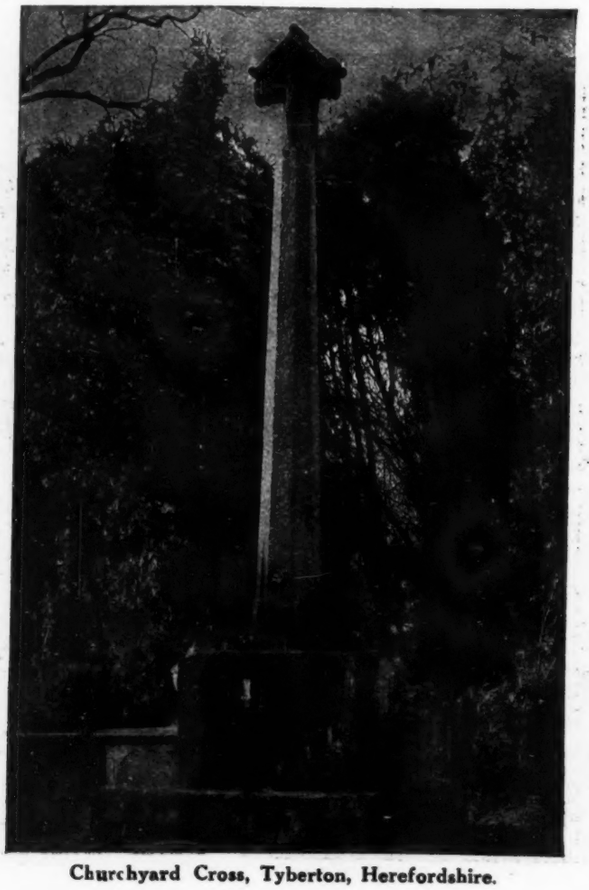
Though it would not have been without advantage had this book been issued a year or so ago, we are not sure but that it may effect a more useful purpose at the present time, through the opportunity which it affords of comparing the temper of these old monuments with those by our own hands. Why do these old monuments affect us so much when the grasp is often childish and even uncouth? The twilight of the past no doubt does invest them with a certain mystery and romance, but is there not also found within them the expression of an immense reality felt vividly, though often dimly expressed? The collective effect of the examples drawn together in this book in so comprehensive and representative a manner seems to epitomise the whole spirit of mediæval art, and should be very instructive at the present time. In the crosses illustrated, we discover the endless resource lying within the variation of the form of steps, socket, shaft and head, and with all the advantage of the restraints and precedents which must always lie at the root of good work, because it has so much behind it, and is free from lawless vagary and over-subjectiveness. It would seem as though a simpler and more correlated outlook upon life held it secure; that a profound spiritual experience can alone have accounted for the noble temper of the work. How impossible it is to manufacture this temper we see in the efforts at restoration, which have worked such destruction to the monuments of this country; and the examples of restoration shown in this book seem only to confirm the conviction of its unerring failure. No less for monuments than for men comes the time of old age and decay; and, though by no subtle alchemy can we withstand the process, there is a kind of immortality secured for the past, outlasting time, when we unite to our own life the temper out of which these memorials grew. Happy is the civilisation when succeeding ages expressing themselves in their own way carry on and further this great tradition.

The author, in his preface, tells us that the object of the book is to "prove useful as affording the most appropriate form of monuments for reproduction or adaptation to the needs of the present." In seeking thus to hook his volume to a useful end, he falls into error. For such a purpose suggests—unintentionally, perhaps—the absence of any hope that it is possible to erect memorials, which should really be the outcome of our own creative intelligence. It may be so, but in the absence of this quality such an alternative as that of merely reproducing or adapting old forms is not in itself able to offer any compensation for the loss of this fundamental requirement. Such a conclusion may not be without warrant. The times are, perhaps, too restless and anxious for the composure that allows entrance for these qualities. But we must not deceive ourselves. Familiarity with these old memorials, however beautiful, will not in itself enable us to procure a like beauty in our own. It is as though we should say that a people living in the most beautiful country will necessarily do the most beautiful things. It is not so. The temper out of which beauty is born would seem rather to be created from within.

Looking at these many illustrations, we are compelled to see that, freed from the poverty of the single mind, expressed corporately and nationally, beauty is really a simple thing, depending on the level at which life is lived. Great, because it is not confused by intellectual over-subtlety, seeing its way directly and robustly, without looking before and after all the time. The burden of all our over-reasoned inquiries is not worth one hour of abundant life, wherein the thread of spiritual unity and tradition binds all together. The accomplished author of this valuable book awakens such thoughts in bringing together these monuments of the past, accompanied by so much taste and scholarship, and in so admirable a way, and we trust that his volume will find many readers. The illustrations of churchyard crosses in this issue are from Mr. Vallance's book.

*By Aymer Vallance, M.A., F.S.A. London: B. T. Batsford, Ltd. Price, 18s.

Reverse of Head, Tyberton Cross.



Churchyard Cross, Tyberton, Herefordshire.

PRESERVATION OF STONE.

IN a letter to *The Times* on the subject of the preservation of stone, Mr. Alan E. Munby, Chairman of the Royal Institute of British Architects Science Committee, draws attention to certain weathering tests on building stones which are being carried out by the Geological Survey. Some ten years ago, he says, the Survey authorities approached the R.I.B.A., and a programme on the weathering of stones was drawn up by the Science Committee of the Institute and the geologists. A number of specimens of common building stones placed in suitable frames with regard to aspect have now been exposed on the roof of a building in the heart of London for nearly a decade, and from time to time these specimens have been examined and the deposits formed upon them have been assessed and tested, non-corrodible metal plugs being used to preserve the planes of the original faces. At the close of this year it is hoped to make a final report. The problems of building demand the attention and collaboration of men of science, and there seems little doubt that many millions might be saved annually by the expenditure of a few thousands of pounds on research. Looking at the problem generally, Mr. Munby suggests the use of preservatives must surely imply the initial employment of material in some measure unsuited to its environment, and in attacking the whole matter we should probe the roots and not begin by treating symptoms, however necessary in specific instances. Probably the physical characters of stones are really more important than chemical composition. For example, Ketton and Bath stones are both oolites, with very similar chemical composition but different physical structures, and the difference in the weathering power of these stones in London is well known.

GENERAL NEWS.

Professional Announcement.

The address of Mr. H. S. East, A.R.I.B.A., is now No. 12, Hart-street, Bloomsbury, W.C.1; telephone: Museum 5685.

The President of the R.I.B.A.

The President of the Royal Institute of British Architects, Mr. John W. Simpson, has left England for Cairo on a mission for the Egyptian Government in connection with the Quasr-el-Aini Hospital.

Royal Naval Division Memorial.

It is proposed to erect a monument at the foot of the Duke of York's steps to the members of the Royal Naval Division who lost their lives in the war, and a committee (of which Paymaster Lieut.-Commander H. E. Gillard, Cornwall House, Stamford-street, S.E. 1, is the secretary) has been formed to further the proposal. A suitable site for the purpose has been placed at the disposal of the committee by the Office of Works.

Building Materials for Haiti.

According to the *Moniteur*, the official journal of the Haitian Republic, a contract has been made between the Government and the Société Commerciale d'Haiti, an American company, for the construction of a wharf at the port of Saint Marc. British firms desirous of offering construction materials should communicate direct with Mr. Frankel, Société Commerciale d'Haiti, Port-au-Prince, Haiti.

The Surveyor's Institution.

The following candidates have passed the special diploma examinations of the Surveyors' Institution in Forestry and Rating:—Forestry: Messrs. H. W. Allison (Hull), and A. W. Hosegood (Williton, Somerset). Rating: Messrs. I. Dixon, Junr. (Liverpool), H. S. Lodgson (Crouch End), and J. S. Milne (Wylde Green, Warwickshire).

Roman Carving Discovered.

A specimen of Roman sepulchral carving, which is stated to have lain in a contractor's yard at St. John's Wood for the past 50 years, has been presented to the British Museum, who have identified it as a monument to Lucius Ampudius Philomusus. The sculpture is over 5 ft. long and nearly 2 ft. wide, and depicts three half-length, full-face, draped busts set in a deeply-recessed panel. At each end of the monument are carved corn measures. Prof. A. H. Smith (Keeper of Greek and Roman Antiquities at the British Museum) has stated that the relief is not part of a sarcophagus, but is a slab built originally into the walls of a tomb. The monument is now on view at the Museum.

"Luxury" Building.

A recommendation of the Buildings Committee of the Godstone Urban District Council that the approval of plans for a new stand at Lingfield racecourse be postponed on the grounds that it was a "luxury" building, and would absorb local labour and materials required for housing purposes, was rejected at a meeting of the Council last week. A representative of Sir Robert McAlpine & Sons, the contractors for the erection of the stand, stated that the principal skilled work would be done by their own men, and as the stand was required by October there would be no interference with work on the housing scheme. The Council decided that the stand could be erected immediately.

Industrial Research.

The following research associations have been approved by the Department of Scientific and Industrial Research as complying with the conditions laid down in the Government scheme for the encouragement of industrial research, and have received licences from the Board of Trade under Section 20 of the Companies' (Consolidation) Act of 1908:—The British Iron Manufacturers' Research Association, Atlantic Chambers, Brazennose-street, Manchester (Secretary, Mr. H. S. Knowles); The British Portland Cement Research Association, 6, Lloyd's-avenue, London, E.C. 3 (Secretary, Mr. S. G. S. Panisset, A.C.G.I., F.C.S.); The Glass Research Association, 50, Bedford-square, W.C. 2 (Secretary, Mr. E. Quine, B.Sc.).

"Safety First."

At the Machine Tool Trades Exhibition, to be held at Olympia in September next, a convention will be held under the joint auspices of the Home Office and the British Industrial "Safety First" Association. There will be two sessions, at which papers of interest will be discussed. Engagements permitting, the Home Secretary will preside at the morning session, and Lord Leverhulme in the afternoon. Invitations to the convention are being extended to the managements and workers of the principal industries throughout the country, and representatives of Government departments and others. The arrangements for the conference are in the hands of Mr. Gerald Bellhouse, C.B.E., Deputy-Chief Inspector of Factories and Workshops, and Mr. H. E. Blain, C.B.E., Operating Manager of the Underground Railways.

Employers and Employed.

A conference took place last week between representatives of the National Alliance of Employers and Employed and the Industrial League and Council, as a result of which it was agreed to recommend the amalgamation of these bodies. The Joint Executives will meet shortly to consider the report and to work out the details. If the recommendation is carried through, there will be created probably the most influential body of employers and employed which has ever existed in any country. Many leading employers and prominent trade unionists are connected with one or other of the amalgamating bodies, and the main object to be pursued will be the bringing together of capital and labour with a view to the avoidance of labour troubles, the joint consideration of matters appertaining to their industries and the general industrial welfare.

The Manchester Society of Architects.

The *Kalendar* of the Manchester Society of Architects for 1919–20 and 1920–21 has now been issued. The office-bearers and Members of Council for the year 1920–21 have been elected as follows:—President, Mr. A. W. Hennings, F.R.I.B.A.; Senior Vice-President, Mr. P. S. Worthington, M.A., Litt.D., F.R.I.E.A.; Junior Vice-President, Mr. W. S. Beaumont, A.R.I.B.A.; Hon. Secretary and Treasurer, Mr. Francis Jones, F.R.I.B.A.; Assistant Hon. Secretary, Mr. H. Q. Farmer, Lic. R.I.B.A.; Secretary, Mr. S. A. Gradwell, A.C.A.; Members of Council—Fellows: Messrs. A. C. Dickie, M.A., F.R.I.B.A.; F. P. Dunkerley, F.R.I.B.A.; J. H. Gibbons, F.R.I.B.A.; W. C. Hardistry, F.R.I.B.A.; E. Hewitt, F.R.I.B.A.; P. Ogden, F.R.I.B.A.; J. H. Sellers; I. Taylor, F.R.I.B.A.; E. Wood, A.R.I.B.A. Associates: Messrs. J. S. Beaumont, B.A.; W. C. Young, A.R.I.B.A.; J. H. Worthington, M.A., A.R.I.B.A. Auditors: Messrs. H. H. Brown, F.R.I.B.A., and J. D. Mould, F.R.I.B.A. The annual report states that the membership is now 309, an increase of 44 over the preceding year. An application made by the National Federation of Master Painters and Decorators (Manchester Area) that, as the priming coat on woodwork had a definite effect on the finished work, it should be included in the painters' quantities, so that the trade should be responsible for the whole of the work, is recommended for the consideration of members. Mr. J. B. Gass has resigned from the Council owing to the difficulty of attending meetings, and has presented the sum of £200 to found an annual prize for students, to be known as the "Bradshaw Gass Exhibition"; this will be offered for the first time this year.

COMPETITION NEWS.

Sheffield.

The Special Committee of the Sheffield City Council has received the award of the assessors (Sir Aston Webb, P.R.A., and Mr. F. E. P. Edwards, F.R.I.B.A.) in the competition for designs for proposed war memorial halls, and has adopted their recommendations, as follows:—

Design Placed First (No. 33).—Mr. E. Vincent Harris, F.R.I.B.A., 29, St. James's-square, London. (Illustrated in this issue).

Design Placed Second (No. 23).—Premium £250: Mr. Jas. B. Fulton, F.R.I.B.A., 153, Amesbury-avenue, Streatham-hill, S.W.2.

Design Placed Third (No. 28).—Premium £150: Mr. E. B. Webber, 8, New-square, Lincoln's-inn, W.C.2.

Design Placed Fourth (No. 38).—Premium £100: Mr. Howard H. Thomson, F.R.I.B.A., 8, Market-street, Leicester.

Great Northern Hospital.

The designs of Messrs. H. Percy Adams, F.R.I.B.A., and Chas. H. Holden, A.R.I.B.A., have been selected for the proposed extension of the Great Northern Hospital, Holloway. Architects who have specialised in hospital construction were invited to compete, and Sir Aston Webb, P.R.A., acted as assessor.

Bermuda.

FOR THE DEPT. OF PUBLIC WORKS.—Design for a memorial. Sending-in day, August 31. (See our issue for July 16.)

Hackney.

FOR THE PEACE CELEBRATION COMMITTEE.—Designs for a monumental memorial. Sending-in day, September 1. (See our issue for July 30.) Members of the Royal Institute of British Architects and the Society of Architects are requested not to take any part in this competition until the conditions have been approved.

Earby.

FOR THE WAR MEMORIAL COMMITTEE.—Designs for a war memorial. Sending-in day, August 31. (See our issue for July 30.) Members of the Royal Institute of British Architects and the Society of Architects are requested to take no part in this competition until the conditions have been approved.

York Minster.

Designs for a war memorial to officers and men of the K.O.Y.L.I. Sending-in day, September 14. (See our issue for July 30.)

Corsham.

FOR THE WAR MEMORIAL COMMITTEE.—Designs for a war memorial. Sending-in day, August 31. (See our issue for August 13.)

Barcelona.

The Competitions Committee of the R.I.B.A. and the Society of Architects call attention to the fact that the conditions of the New Club Premises, Barcelona, competition are unsatisfactory. The Competitions Committee is in negotiation with the promoters in the hope of securing an amendment. In the meantime members of these bodies are advised to take no part in the competition.

Lille.

FOR THE MUNICIPALITY.—Designs from architects of French and Allied nationalities for reconstructing and beautifying the city. The premiums offered total 128,000 francs, in sums of from 30,000 to 3,000 francs. The entrance fee is 300 francs. Sending-in day, October 15. Further particulars from the *Direction des Travaux Municipaux*, Town Hall, Lille.

Burton-on-Trent.

FOR THE GOVERNORS OF THE BURTON-ON-TRENT ENDOWED SCHOOLS.—Design for a high school for girls. Names of intending competitors to be sent in by September 6. (See advertisement this week.)

COMPETITION FOR WAR MEMORIAL HALLS, SHEFFIELD.

THE assessors, Sir Aston Webb, P.R.A., F.R.I.B.A., and Mr. F. E. P. Edwards, F.R.I.B.A., the City Architect of Sheffield, have presented their Report upon the forty designs submitted in this competition, and their award has been adopted by the Special Committee of the City Council appointed to deal with the matter. The author of the selected design is Mr. E. Vincent Harris, F.R.I.B.A., 29, St. James'-street, London. The designs placed second, third and fourth are by Mr. Jas. B. Fulton, A.R.I.B.A., 153, Amesbury-avenue, Streatham Hill, London, Mr. E. B. Webber, 8, New-square, Lincoln's Inn, London, and Mr. Howard H. Thomson, F.R.I.B.A., 8, Market-street, Leicester. The three last named receive premiums of £250, £150, and £100 respectively.

The site of the proposed building is an island one, and will be formed by the demolition of existing buildings and the widening or deviation of existing streets. It is situated within 150 yards of the Town Hall, and, while readily accessible, is sufficiently removed from the main lines of traffic to escape the noise caused by passing vehicles. The principal frontage is towards Barker's Pool, which at this point will be widened to 100 ft. On the east and west sides, and at the rear, or north end of the site, the roads will be 60 ft. in width. Holly-street, which runs from the rear of the site to the junction of Bow-street and West-street, will be widened to 60 ft. When widened the centre of Holly-street will be on the axial line of the building; it is important, therefore, that the north elevation should form a suitable vista, and this condition is admirably fulfilled by the selected design. The site tapers 13 ft. towards the north end; there is a cross fall of about 10 ft. from west to east, and a slight fall from north to south.

The conditions of the competition limited the cost to £200,000; required the exterior walls to be faced with stone; suggested that the architectural treatment should be simple and dignified, and mentioned the importance of direct and convenient planning, a point which some of the competitors appear to have overlooked. The stipulated accommodation consists of a large hall, to seat 3,000 persons in the auditorium and 500 on the platform, with the provision of space for an organ; and a small hall to seat 500 persons, readily accessible from the large hall, and arranged so that the retiring rooms may be used in connection with both. The further accommodation required includes a crush hall and lounge foyer, cloak rooms, retiring rooms for artistes and chorus, and a kitchen with the usual offices.

The large hall is naturally the pivot upon which the whole plan revolves. In the designs submitted it takes many forms—round, oval, square, oblong, cruciform, fan-shaped, and another class whose curious shapes and eccentricities of outline can only be classified as freaks. Many competitors have based their designs upon a theatre rather than upon a concert hall, and have placed the platform in a recess, thus partly cutting off the orchestra and chorus from the audience instead of bringing them within the lines of the main hall and so giving full effect to the volume of sound. The organ, also, in some designs, is placed at the rear of a tunnel-like recess, the whole of which, from floor to ceiling, is filled by its pipes, leaving no space for the proper escape of sound. A further defect of the recessed type of platform is that many of the audience are unable to see the whole of it. This defect is especially in evidence in one of the cruciform plans (No. 29) which, in spite of its unsuitability, commands attention from the grandeur of its architectural conception. This set of plans also illustrates another defect, common to a number of designs, *i.e.*, the provision of large windows to light the hall. While of good effect architecturally, such windows are not necessary; in fact, they are a disadvantage, for they help rather than hinder the transmission of sound from outside. A hall isolated by corridors and smaller apartments from direct contact with the surrounding streets is better adapted for the requirements of a concert or meeting hall, and may be adequately lighted from above if required for use in the day time.

The selected design is an excellent example of simple and direct planning. Slight defects are apparent, but no doubt these will be eliminated when the scheme is fully matured. Taken as a whole, the design best fulfils the conditions laid down and is the most suitable for its purpose amongst those submitted. The large hall is placed in the centre; it is oval or elliptical in shape and measures 132 ft. by 100 ft. The level of the lowest or saloon floor is placed midway between those of the side streets. The principal approach is from Barker's Pool through a crush hall 80 ft. by 20 ft. At either end of this are ticket offices, and behind it, separated from it by pillars, is a corridor, 9 ft. in width, from the ends of which stairs lead to the first or balcony floor. Corridors run from front to back of the building on either side of the large hall. These are quite straight and do not follow the lines of the hall; the spaces formed in the angles between hall and corridors are utilised for crush purposes. Adequate exits are provided, both from the corridors to the streets and from the large hall itself. There are no less than eighteen doorways from the latter on the saloon floor above. Apparently the side corridors and crush halls follow the levels of the saloon, which slopes downwards towards the platform. This may lead to difficulties in execution regarding access to the smaller rooms on the outer sides of the corridors. The seating on the saloon floor is simply and compactly arranged, but that of the platform, as planned, leaves much to be desired. Sheffield has a reputation for its choral performances, the success of which depends largely upon the intimate and ready command of the conductor over his chorus and orchestra. This would be impossible with the seating as arranged, but the defect does not affect the general design, and may be readily overcome.

Ample and well-arranged cloak rooms are provided on each side of the building. These are only separated from the corridors by pillars, which do not present the difficulties which arise where opposing streams of traffic seek to pass through the same doorway. The sexes also are not divided—an important consideration, and one which will save much congestion in the corridors. The small hall is situated at the rear of the building. It is semi-circular, with a radius of 42 ft., and is surrounded on its outer side by a corridor or crush hall, above which is a small gallery. This hall gives promise of great suitability for chamber concerts or smaller gatherings, as the whole of the audience is grouped at a minimum distance from the platform.

The lounge foyer is placed upon the first floor over the crush hall and is 100 ft. by 20 ft. A similar arrangement of corridors and cloak rooms obtains upon this floor as upon the lower one. Additional staircases, placed towards the centres of the side corridors, would improve the exits from this floor. The second or gallery floor is again largely a repetition of that below. It has four staircases leading directly to the side streets. The lounge foyer rises through this floor and the front corridor forms a balcony overlooking it. The retiring rooms for the principal artistes are placed upon this—the top—floor, a position which certainly will not meet with their approval unless lifts are provided. The ceiling of the large hall is domical, with deep coffers and centre lighting. The interior walls are bare of ornament beyond that provided by the galleries and the organ front, which form the subject of the interior detail. An important point is that the platform is entirely within the hall, and the whole of it can be seen from all parts of the auditorium.

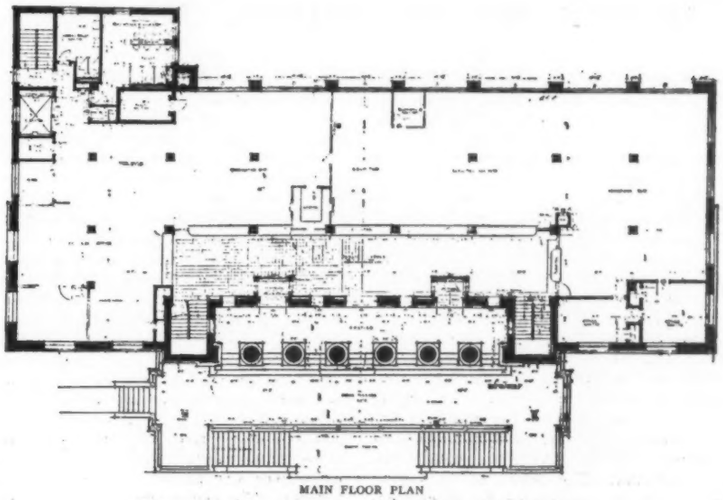
The exterior is treated in a broad and simple manner. This is especially evident in the side elevations, and these, with careful detailing, should prove effective. The front elevation has ten columns of the Corinthian order rising the full length of the building. They are not engaged, but are placed slightly in front of the wall. The doors and windows of the crush hall and foyer are placed between the columns; the effect is rather monotonous, and gives the feeling that more weight is desirable at the ends. Groups of sculpture are placed in front of each end pair of columns, and these, combined with the internal arrangement of the lower floor, suggest that a more solid treatment of the ends would be more suitable. The entablature is carried completely round the building, binding the whole together and bringing all parts into unison. With the exception of a few steps leading up to the doorways between the columns, all steps due to variation in levels are kept within the building. The door-ways are thus close to the ground and suggest lack of base to the building, a feature desirable where a classical treatment is adopted. The practical advantages in bad weather, due to the elimination of outer steps, are self evident. The apsidal end, containing the small hall, is encircled by flat pilasters, which, above the roof, are formed into square columns crowned by the entablature. A simply-treated attic story surrounds and masks the walls of the large hall where these rise above the general level.

Mr. J. B. Fulton, in the second premiated design, has adopted a circular hall, 111 ft. in diameter, with a circular corridor surrounding it. This form is continued to the outer edge of the plan and is emphasised in the exterior treatment. The circular type of corridor is not so satisfactory as the straight, direct one where large masses of people are concerned, especially when these are strange to the building. In this design, also, the approach from the front entrance to the large hall is not so direct as in the selected design. The crush hall (71 ft. 6 in. by 22 ft.) is entered directly from the street, the ticket offices are at either end, and there are cloak rooms opposite the entrances. Between these there is a wide flight of steps, leading up to the corridor surrounding the hall. Further cloak rooms are provided at the sides of the hall, but in all cases the sexes are separated and most of the rooms are approached by doors, all tending to congestion of traffic. The platform in the large hall is placed in a recess. There are three tiers of galleries, the upper one being partly in a recess formed over the front portion of the building. The treatment of the interior of the large hall is a very effective piece of design; it has a dome with pendentives over a central square and with square recesses front and back. The side recesses are segmental on plan. Its very effectiveness in appearance causes a great defect. Part of the chorus is placed outside the main body of the hall, and, further, the whole platform is not visible from every part of the auditorium. The small hall is rectangular (71 ft. 6 in. by 35 ft. 6 in.) with a platform at one end. About one-third of the audience, therefore, are further from the platform than any in the selected design. The whole plan of the building is not so simple or direct as that placed first. The exterior treatment, while containing much excellent detail, lacks unity and cohesion. The front and back annexes, although they have columns of the same scale as those used upon the central block, or perhaps because of it, are dwarfed by the huge mass of the latter; nor has any serious attempt been made to bind all together. The use of columns, placed high in the wall of the central portion and practically upon the ground in the low annexes, accentuates the appearance of lowness and lack of base of these portions. The glass verandah, also, destroys the dignity of the design, and is an unnecessary feature. The detail of this design is excellent, and the draughtsmanship is the best amongst all the designs submitted; it is worthy of the high reputation of its author.

The third premiated design, by Mr. E. B. Webber, possesses many features in common with the selected one. In some small details

it is superior. Both designs have large crush halls, communicating in a similar manner with straight corridors, and both have the same arrangement of cloak rooms without separation of sexes and accessible in the same manner, although in Mr. Webber's plan they are too far away from the main entrance. On this plan, also, all the steps are within the building. On the upper floor, again, both designs have a large foyer over the front crush hall. A further similarity is in the small halls; both are semi-circular. It is, however, in the large hall, the crux of the whole design, that the great difference arises. Mr. Webber has adopted the rectangular type, 96 ft. by 84 ft. 6 in., with the platform in a recess. At the back of this the organ is placed. Two tiers of galleries are provided, and these are continued up to the walls, at the sides of what may be described as the proscenium opening. These galleries cut into and divide a pilaster, which is carried the full height of the wall—a misuse of classical detail which would jar upon all sensitive in such matters. The ceiling of the hall is coved and coffered, and has a central light. The outer treatment of this design is in some respects superior to that of the selected one. This is especially so in the principal front, which has a similar row of columns before the wall of the crush hall and foyer. These columns are only six in number, and are flanked by solid masses which give weight and dignity to the whole. The entablature is carried completely around the building, and emphasis is given to the side elevations by bolder masses, varied in detail from the remainder and placed at each end of the front. The pedimented roof over the central portion looks awkward, and is not so satisfactory as the simpler lines of the central portion of the selected design.

The design by Mr. Howard H. Thomson, which is placed fourth, is reminiscent of the Usher Hall, Edinburgh. This can hardly cause surprise, for Mr. Thompson was one of the architects associated with its erection. The lines of the large hall in this design follow those of a theatre, rounded at the back, and with the platform in a recess which tapers towards the rear. The corridor follows the lines of the hall, and cloak rooms are provided at the sides. The front towards Barker's Pool is segmental. There are three comparatively small crush halls, and between them are winding staircases leading to the upper floor. This type of staircase is generally condemned where large masses of people are concerned, although the appearance is effective. The small hall is at the rear; it is 97 ft. by 35 ft., an undesirable proportion. No cloak rooms are provided in connection with the small hall, and it appears too much cut off from the rest of the building.



MAIN FLOOR PLAN

HARTFORD TIMES BUILDING, HARTFORD, CONNECTICUT
DONN BARBER, *ARCHITECT*

From the *American Architect*.

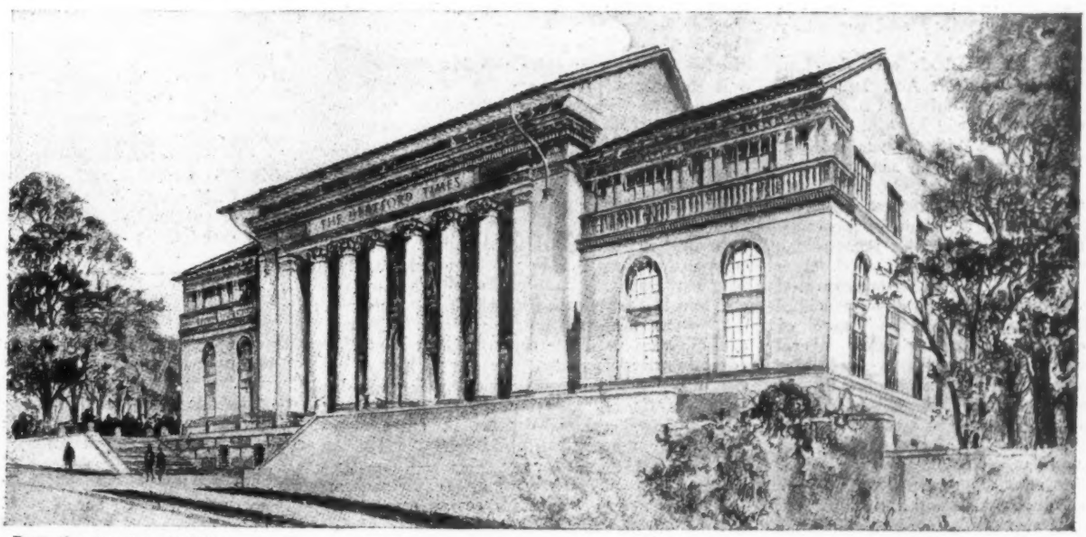
The external treatment of this design lacks dignity, and is not of a monumental character. The sides follow the tapering sides of the site; the upper portion of the large hall takes a circular form which rises above the main block and is crowned by a square mass. The conflicting lines thus formed are not happy, nor is it possible to imagine any means of overcoming the difficulty.

Space does not permit of a detailed criticism of the remaining designs, many of which are of high architectural merit. Unfortunately, however, excellence of plan and elevation do not always go together, and many otherwise fine designs are spoilt by crudities in planning, or their authors have ignored vital portions of the conditions of the competition.

THE HARTFORD TIMES BUILDING.

THIS building is erected at Hartford, Connecticut, between the Morgan Memorial (built of pink Tennessee marble) and the municipal buildings, and it was necessary that it should make a contribution to such an environment. The building was to be commenced about the time when the Madison-square (New York) Presbyterian Church was being demolished, and the architect for the new building (Mr. Donn Barber) decided to make use of the materials. The façade of the church was carefully taken down, and removed to the site. The original columns, pilasters and cornices are used, and the steps, platforms and face courses are all fitted together as they were originally, with the exception of a change in position of the pilasters. In the back wall of the façade are used practically all the principal openings in the church façades. The large circular-headed windows on the Twenty-fourth-street façade of the church have been used to form circular-headed entrance doorways, and the other windows on the Twenty-fourth-street façade, the windows under the columns on the Madison-avenue façade and the two side doors are also used in this wall. In the new building the original Corinthian order has been changed to the Ionic. By the use of an Ionic cap in the order and an added plinth between the column base and pedestal the height of the order was adjusted to the required heights of the stories.

The Madison-square Presbyterian Church was designed by the late Stanford White as "a protest against the prevalent idea that to be church-like a building must be in mediæval style," was also the first instance in the United States of glazed tiles being used throughout the architectural members in a carefully-executed colour scheme.



From the *American Architect*.

The Hartford Times Building, Hartford, Connecticut. MR. DONN BARBER, Architect.

LONDON COUNTY COUNCIL SCHOOLS.

A SECTION on "School Architecture" in a publication entitled "Scheme of the Local Education Authority" issued by the London County Council on July 21 last, contains an interesting *résumé* of the history of school building in London.

The principal characteristic of the elementary schools erected by the School Board during its last few years, and of the schools erected by the Council between 1904 and 1909, may, it says, be described as compactness in planning, the hall being used as a means of communication with classrooms, and corridors being avoided as far as possible. Teachers' rooms were usually placed on mezzanine floors over the cloakrooms. About 1910 various authorities were desirous of planning the halls so that their use for singing and drill would not disturb the work in the adjoining classrooms, and with this object schools were built in which no classrooms opened off the hall. The Board of Education supported this view both in respect to elementary and secondary schools, and in its regulations of 1914 urged that the hall should be so placed as not to disturb the work of the classrooms, and that, from the point of view of ventilation and freedom from dust, classrooms should not open directly from the hall. At the same time, more careful consideration was given by the Council to the aspect of the classrooms, with the object of securing the access of direct sunlight. Teachers' rooms were also provided on the general floor level, and not on mezzanine floors. In addition, provision was made for alternative means of exit from all departments. A further development during recent years is the provision in boys' and girls' departments of "practical workrooms," in which elementary instruction in science, needlework, &c., is given. In 1912 an agreement was made with the Board of Education that maxima of 40 and 48 should be adopted for senior and infants' departments respectively, and all new schools are now planned to give effect to this agreement. An important development is the provision of "open-air" classrooms. In a number of the Council's schools casement windows opening as doors to the floor level have been introduced, while other schools have been provided with windows specially designed to give a thorough circulation of air throughout the classrooms.

The planning of secondary schools has not shown as much variation as that of elementary schools, as the regulations under which secondary schools are built have remained fairly constant. There has, however, been a change of view as regards the halls in secondary schools, similar to that in connection with elementary schools.

The planning of technical institutes and schools of art is governed by the courses of instruction to be provided, and is not standardised as is that of elementary and secondary schools.

Part II of this section deals with developments under the Education Act, 1918, and states that in future school building the strictest economy in construction will have to be exercised; it is thought that this may be effected to some extent, by the use of new and less expensive materials. Now that school buildings are exempt from all by-laws, school architecture should benefit from the adoption of materials other than brick and stone. As regards the administrative county of London, the London Building Acts and By-laws as to construction and material do not apply to new school buildings. It is hoped that the Board of Education will now adopt a more liberal attitude towards the recognition of lighter forms of construction. In recommending the erection of school buildings built in such lighter forms, consideration has to be given to what is termed the "useful" life of the building and how far it may be possible to make the "structural" coincide with the "useful" life. The standard of heating, ventilation and sanitation, no less than the size of classes, has undergone great and important changes in the immediate past. These higher standards have necessitated excessive re-modelling of school buildings, and many comparatively new schools are now out of date on that account; it may be necessary to expend a considerable sum of money in adapting these buildings to modern requirements.

It seems likely that the future planning of almost all types of schools will be influenced not only by present-day economic conditions but by the desire to afford facilities for open-air classes, and special features are being introduced in the design of new buildings to give effect to this principle. Schools on the outlying estates of the Council offer an opportunity, owing to freedom from the site restrictions obtaining in the more congested areas, of planning the buildings in such a way as to give as much open air as climatic conditions will allow. For the Bellingham and Roehampton Estates plans have been designed of a pavilion type, which approximates, so far as educational exigencies will admit, to the lines of a sanatorium. The central or administrative portions will contain the assembly hall, teachers' rooms, store rooms, &c., and the classrooms will extend laterally as wings. The suggestion is that the administrative portions should be of a permanent character, and that the classrooms should be of light construction, which can be altered, adapted, or even demolished with a minimum of expenditure, experience showing that educational requirements do not affect the administrative portions of the building to such an extent as classrooms. The latter rooms have, for years, represented a variable factor, and it appears desirable to provide for possible developments, unknown at present, affecting this educational unit. Probably, the classrooms will be built in some form of slab construction rough-casted on the face, the intention being to have these rooms as simple as possible, without any glazed bricks or dadoes in the inside. The partitions between certain of the classrooms should be movable, and cross-ventilation should be obtained by windows on both sides of the classrooms and the external walls of the corridor. All cloakrooms will be cut off from the school and have cross-ventilation.

For some time past the construction of playsheds as such has been considered of questionable value, in that the space provided in them is not nearly large enough to include the whole of the children attending a school. In substitution for these, especially in infants' schools, the central hall will be used (in addition to its normal function) as a playroom, and the side walls and windows will be made to open so that the effect of an open-air playshed will be obtained.

In the older type of plans the offices were placed in outside buildings, and in wet weather the children had to cross the playground to reach them. This will be obviated in the new types of school proposed to be erected at Bellingham and Roehampton. There, the offices will be attached to the main building, but will be entirely segregated from the main building by cross-ventilated lobbies. The idea of placing the offices as far away as possible from the main building in schools of the earlier types was presumably due to the primitive sanitary arrangements then obtaining, but closets are now fitted with independent water apparatus, and their complete segregation is no longer necessary. Ample playground space will be provided for the children in these semi-open-air schools—nearly double the minimum laid down by the Board of Education. In the central districts of the administrative county, however, where the cost of land is very considerable, it will probably be impracticable to provide the accommodation required otherwise than in three-story buildings.

In the case of secondary schools, there can be no ideal plan to suit all requirements. It is considered, however, that certain economies can be effected in the construction of these schools. The Departmental Committee appointed a few years ago to deal with economies in school construction stated that "in building schools the gap between the best and worst is not very great, and the possible saving to be effected by particular devices must obviously be estimated, not by reference to the standard of extravagant or even moderately costly architecture, but by reference to the most economical work which is done under existing conditions or even to the most economical work which can be done without the adoption of these devices."

In the planning of secondary schools there are certain general principles to be observed in laboratory planning, the neglect of which may lead to the production of a laboratory, apparently perfect on a cursory examination, yet so defective that the teaching of science is rendered a matter of considerable difficulty. In designing the laboratories of its secondary schools, the Council has regard to the following four considerations: (1) Laboratories should be capable of expansion and modification; (2) fittings should be so disposed as to minimise the unavoidable movement of pupils; (3) the arrangement of benches, &c., should ensure ease of supervision on the part of the instructor; and (4) the storage accommodation should be ample and wall space should be left for additional fixtures. It is proposed that the laboratories shall be lofty, and either top-lighted or the side windows so planned that the sill level is at least 6 feet from the floor. By this means, no wall space is wasted, and the light is better diffused. The walls, if wood panelled to a height of 6 feet, enable all partitions to be easily fixed and easily moved. Glazed tiles or bricks, though admirable as far as light and ease of cleaning are concerned, are impracticable when change of fittings is required.

As regards the Council's practice in the lighting and illumination of school buildings, the relation of window space to floor space is at least one to six; this is the minimum proportion required for defective eyesight. As regards the location of the light, left-hand lighting is the accepted system in the Council's schools. Increasing attention is being given to the problems of artificial illumination, and a higher standard is being aimed at. This standard is the outcome of steady development of efficiency in the illuminants themselves as well as in the methods of application. The even distribution of light is the underlying principle which governs the correct application of artificial illumination. This is essentially so in schemes of interior lighting. To attain this end every effort is made to follow as far as possible the distribution and characteristics of daylight illumination, namely, downward and oblique direction, a broad diffusion in order to avoid sharp and deep shadows, without, however, seeking entirely to eliminate shadows, as these, by firm contrasts, are helpful, and materially assist the eye in its judgment of the form of objects. In all forms of ordinary illumination, the surface from which the light emanates is made as large as possible.

We illustrate this week new elementary schools to be erected by the London County Council on the Roehampton and Bellingham housing estates; and also a new secondary school to be erected at Ducane-road, Hammersmith. These schools, which have been designed by Mr. G. Topham Forrest, F.R.I.B.A., F.G.S., Architect to the London County Council, are also referred to on p. 225.

The Rents of New Houses.

It is reported that on Monday last the tenants of the new houses built by the Birmingham Corporation refused to pay the increased rents asked for the houses. The increases vary from 6s. 5d. to 8s. 2d. per week making the total rents about £1 1s. per week.

The Victoria and Albert Museum.

The authorities of the Victoria and Albert Museum have purchased from Mr. Speaight's Hatfield Collection an old church door, on which is some fine 13th century iron work.

Leading Contents.

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ILLUSTRATIONS

Sheffield Memorial Halls.

A review of the designs submitted in the Sheffield War Memorial Halls Competition is given on p. 222; we illustrate this week the accepted design, by Mr. E. Vincent Harris, F.R.I.B.A.

New London County Council Schools.

These illustrations have been reproduced from the scheme prepared by the London County Council under the Education Act, 1918. One is of a new elementary school to be erected on the Roehampton Estate, situated in the Putney district. This estate consists of about 150 acres, and is now being developed by the London County Council on garden city lines.

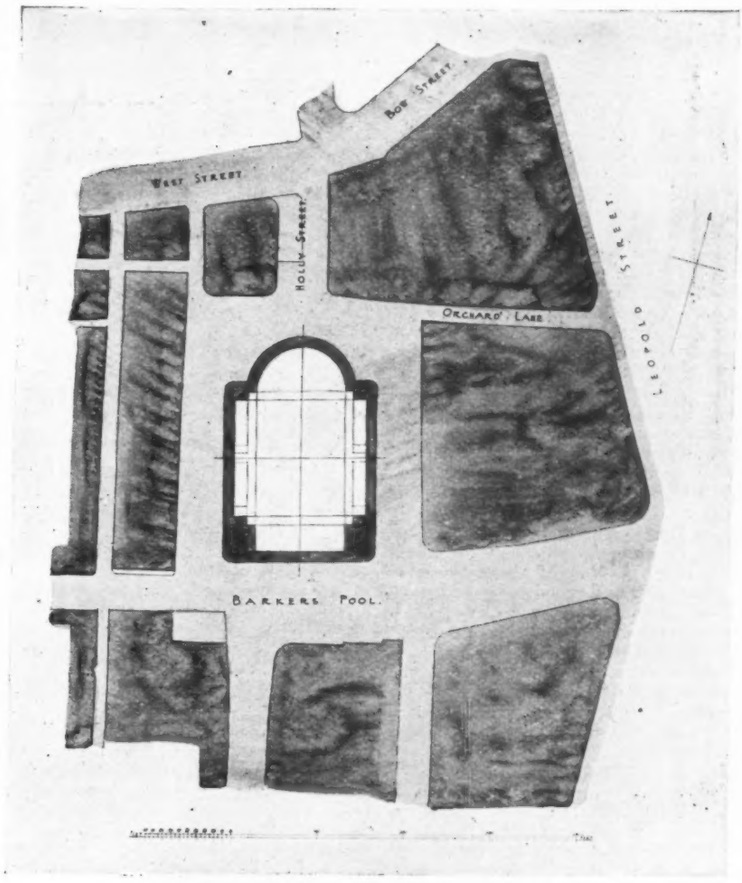
In order to provide for the educational needs of this new garden city, the Council has allotted two acres for elementary schools, six acres for a secondary school and four acres for an open-air school.

The new elementary school will be divided into three departments (boys', girls', and infants') and each of these departments will consist of a one-story building, containing eight class-rooms. Connected with each of the senior departments will be a hall of large size, giving an area of 4½ sq. ft. per pupil, and with the Infants' department a large playroom giving about 4 sq. ft. per pupil. Separate rooms for the head and assistant teachers of each department will also be provided. The area of the classrooms is about 400 sq. ft. in the senior departments and 430 sq. ft. in the infants' department; the rooms in the former will accommodate 40 children and in the latter 48. Provision is also made in the plans of the boys' and girls' schools for a room of a large area, somewhat isolated from the rest of the class-rooms, in which instruction in all forms of practical hand-work can be given. The statutory medical inspection of school children is specially provided for; a room is placed in a covered way between the buildings, and is of easy access for all departments. A specially noticeable feature in the plan is the grouping of the children's offices adjoining the building. The playgrounds are both roomy and of good shape, and suitable for the playing of organised games.

Another illustration is that of a new elementary school to be provided at another of the Council's new housing estates, viz., Bellingham, in the south-eastern district of London.

The plans of a new secondary school at Ducane-road, Hammersmith, are also given.

The schools have been designed by Mr. G. Topham Forrest, F.R.I.B.A., F.G.S., Architect to the London County Council. Some notes on the policy of the London County Council in the building of elementary and secondary schools appear on p. 224.



Sheffield Memorial Halls Competition.

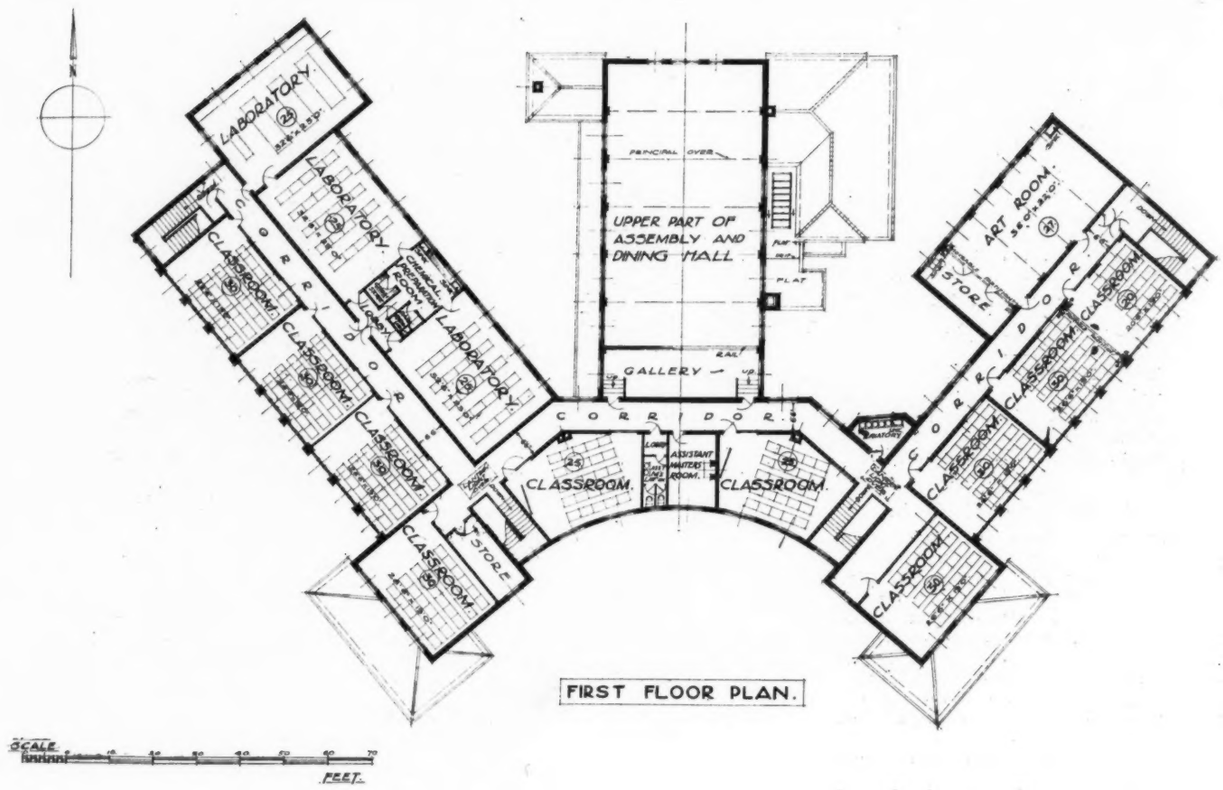
Sheffield Memorial Halls Competition: Accepted Design.
By MR. E. VINCENT HARRIS, F.R.I.B.A. (*See page 222*).

La Sud America Building, Buenos Ayres.

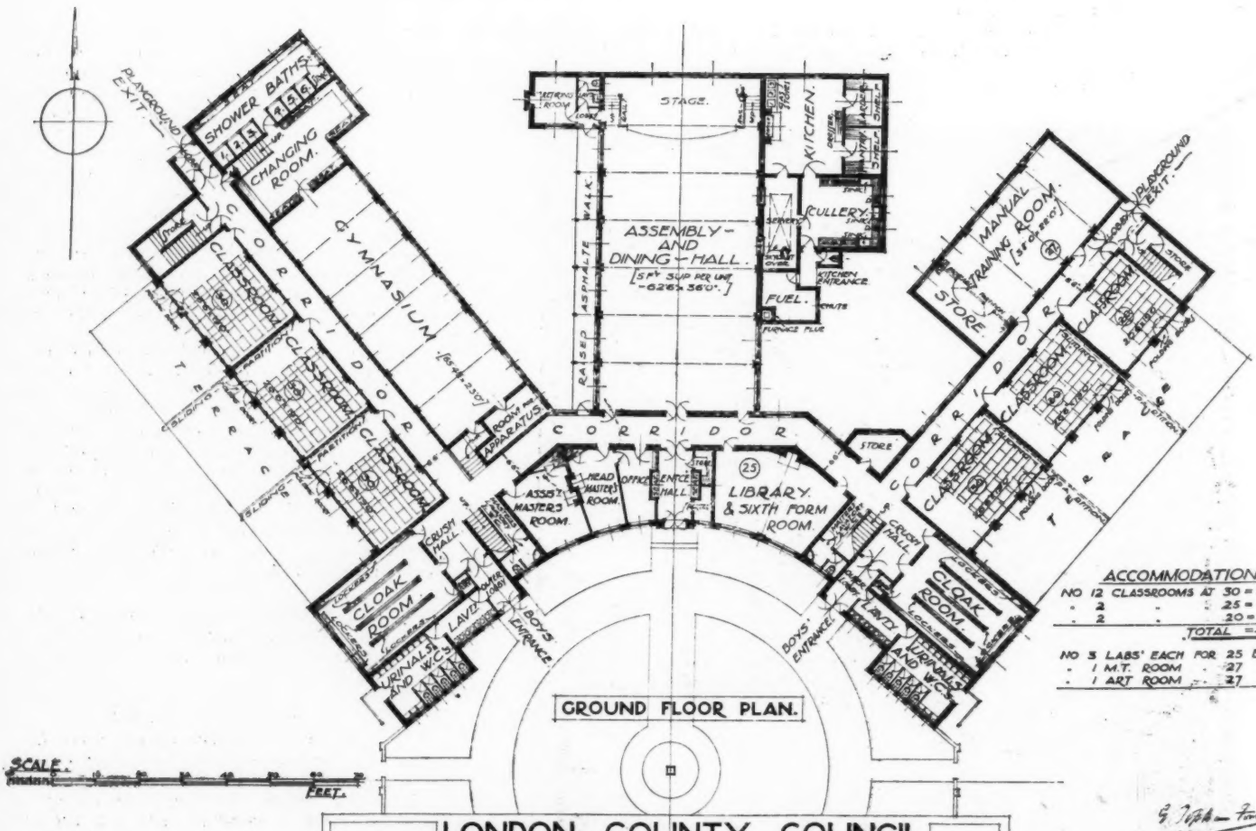
We also illustrate La Sud America Building, Buenos Ayres, for which Mr. R. R. Prentice was the architect.

Hanworth Estate, Feltham.

Our attention has been called to the fact that the illustrations and description of the scheme, entitled "Proposed Houses on the Hanworth Estate, Feltham," appearing in our last issue on pages 201 and 202, are not such as are proposed by the Hanworth Public Utilities Society. The publication of the former appears to have injured the prospects of the latter; for this we express our regret. Had we known of the Society's plans, we should not have published the matter as we did.



FIRST FLOOR PLAN.



GROUND FLOOR PLAN.

ACCOMMODATION.

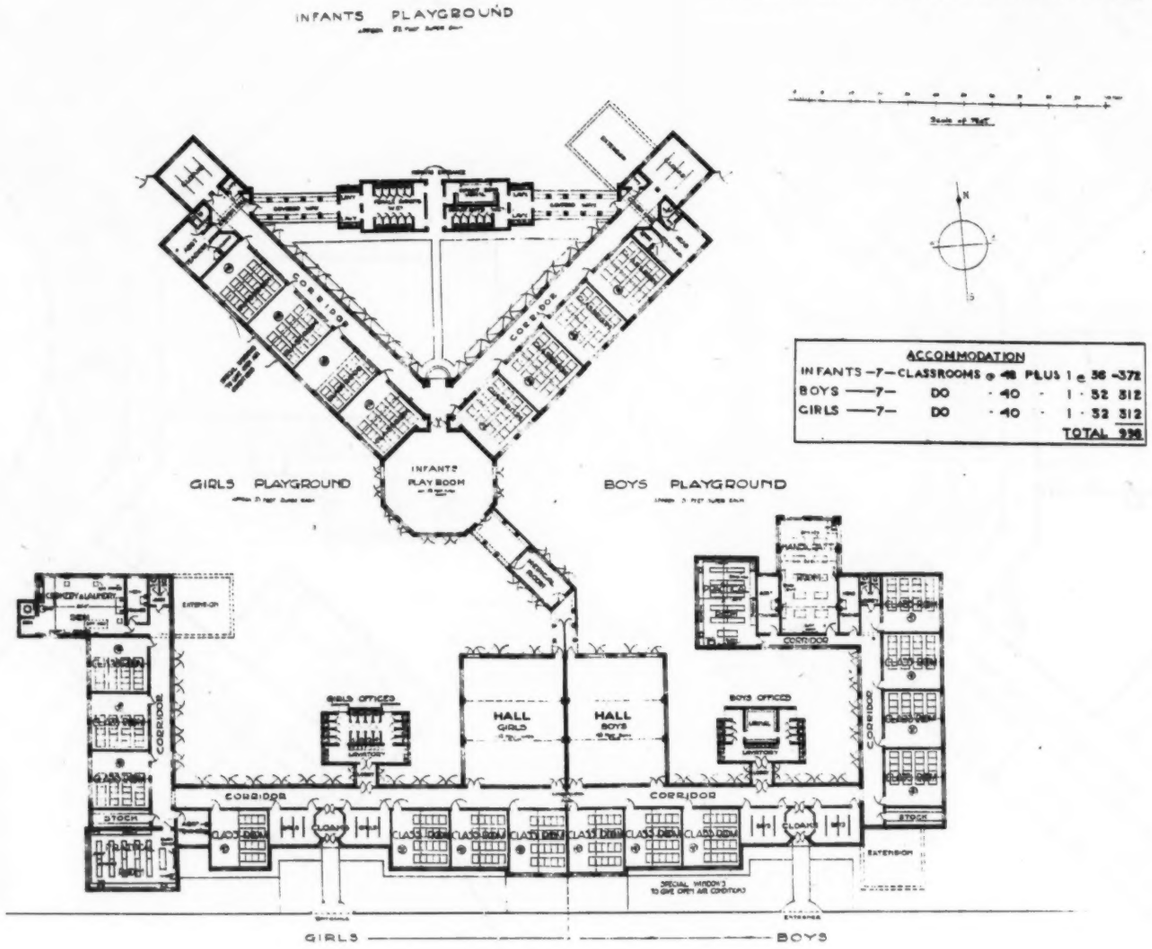
NO 12 CLASSROOMS AT	30 =	360	BOYS.
" 2 "	25 =	50	"
" 2 "	20 =	40	"
TOTAL		=450	BOYS.
NO 3 LABS' EACH FOR	25	BOYS	
" 1 M.T. ROOM	27	"	
" 1 ART ROOM	27	"	

LONDON COUNTY COUNCIL.
PROPOSED NEW SECONDARY SCHOOL FOR BOYS.
DUCANE ROAD HAMMERSMITH.

G. Topham Forrest
ARCHITECT TO THE COUNCIL.

MR. G. TOPHAM FORREST, F.R.I.B.A., Architect to the London County Council. (*See pages* 224 and 225)

LONDON COUNTY COUNCIL.
BELLINGHAM ESTATE PROPOSED ELEMENTARY SCHOOL.

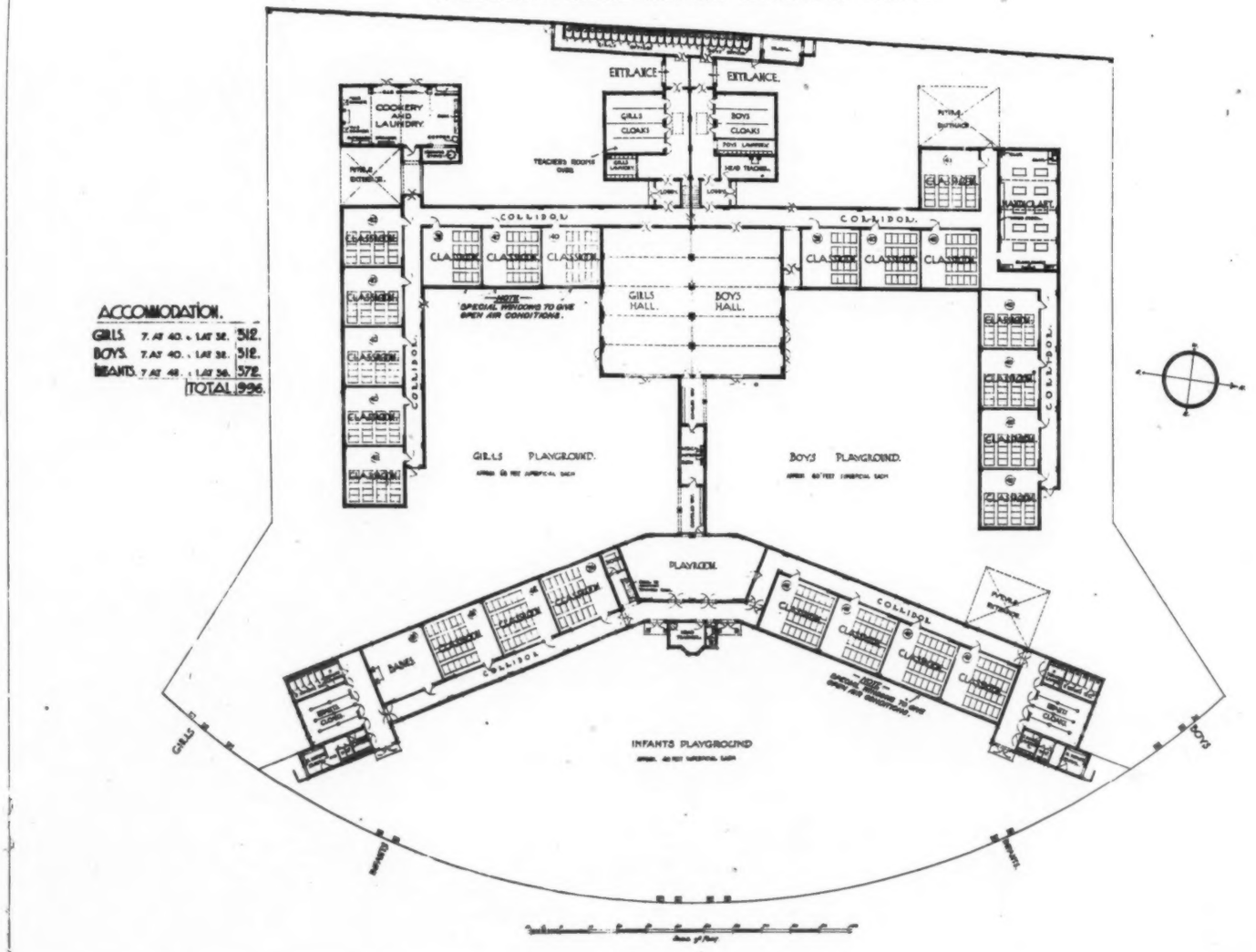


ACCOMMODATION					
INFANTS —7— CLASSROOMS @ 48	PLUS 1 @ 56	= 372
BOYS —7—	DO	· 40	·	1 · 52	312
GIRLS —7—	DO	· 40	·	1 · 52	312
				TOTAL	996

LONDON COUNTY COUNCIL.

LONDON COUNTY COUNCIL.

ROEHAMPTON ESTATE. PROPOSED ELEMENTARY SCHOOL.

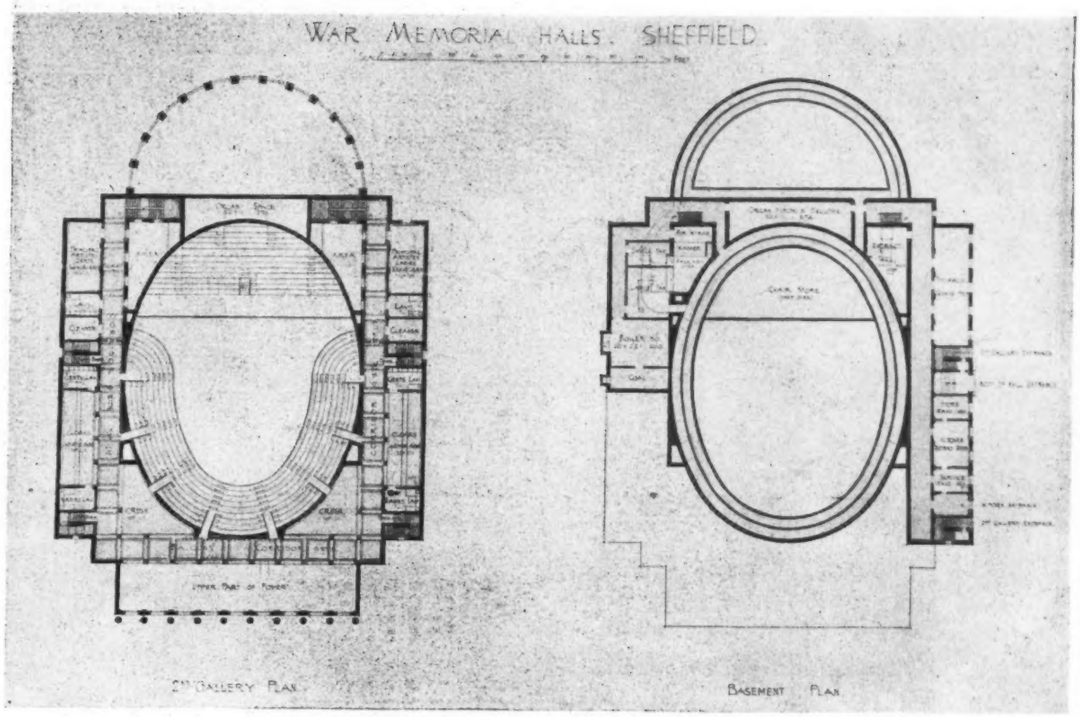


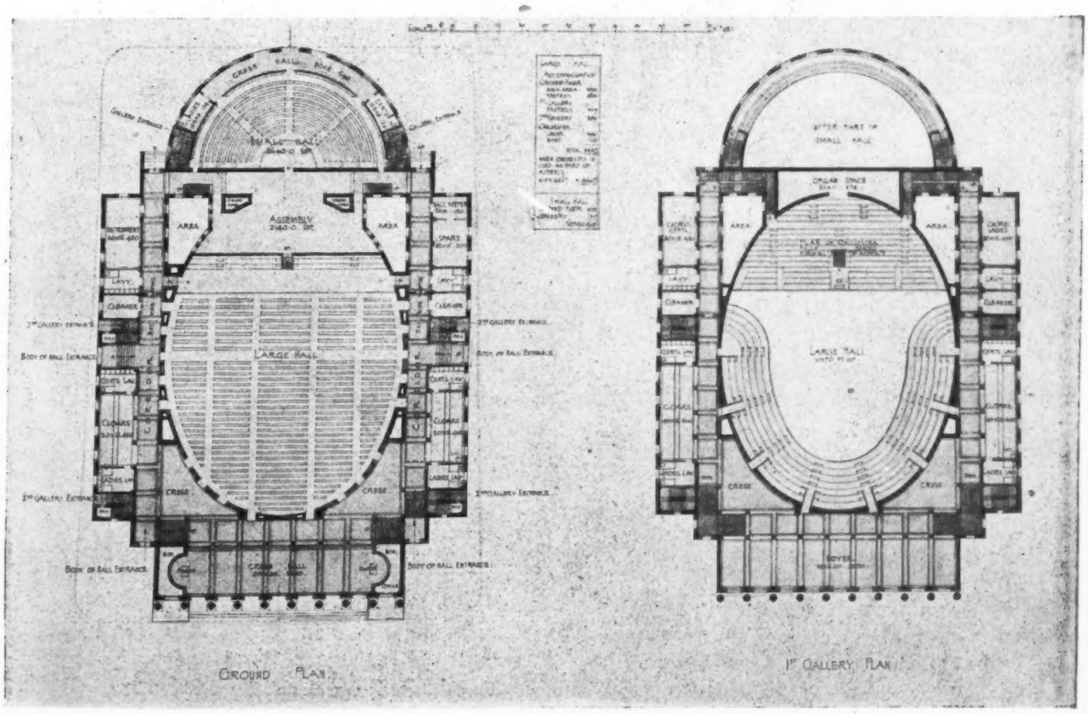
PROPOSED ELEMENTARY SCHOOLS FOR THE LONDON COUNTY COUNCIL.

MR. G. TOPHAM FORREST, F.R.I.B.A., ARCHITECT TO THE COUNCIL

LA SUD AMERICA BUILDING, BUENOS AYRES: VIEW OF TOWER AND PART OF FACADE ON 25 DE MAYO.

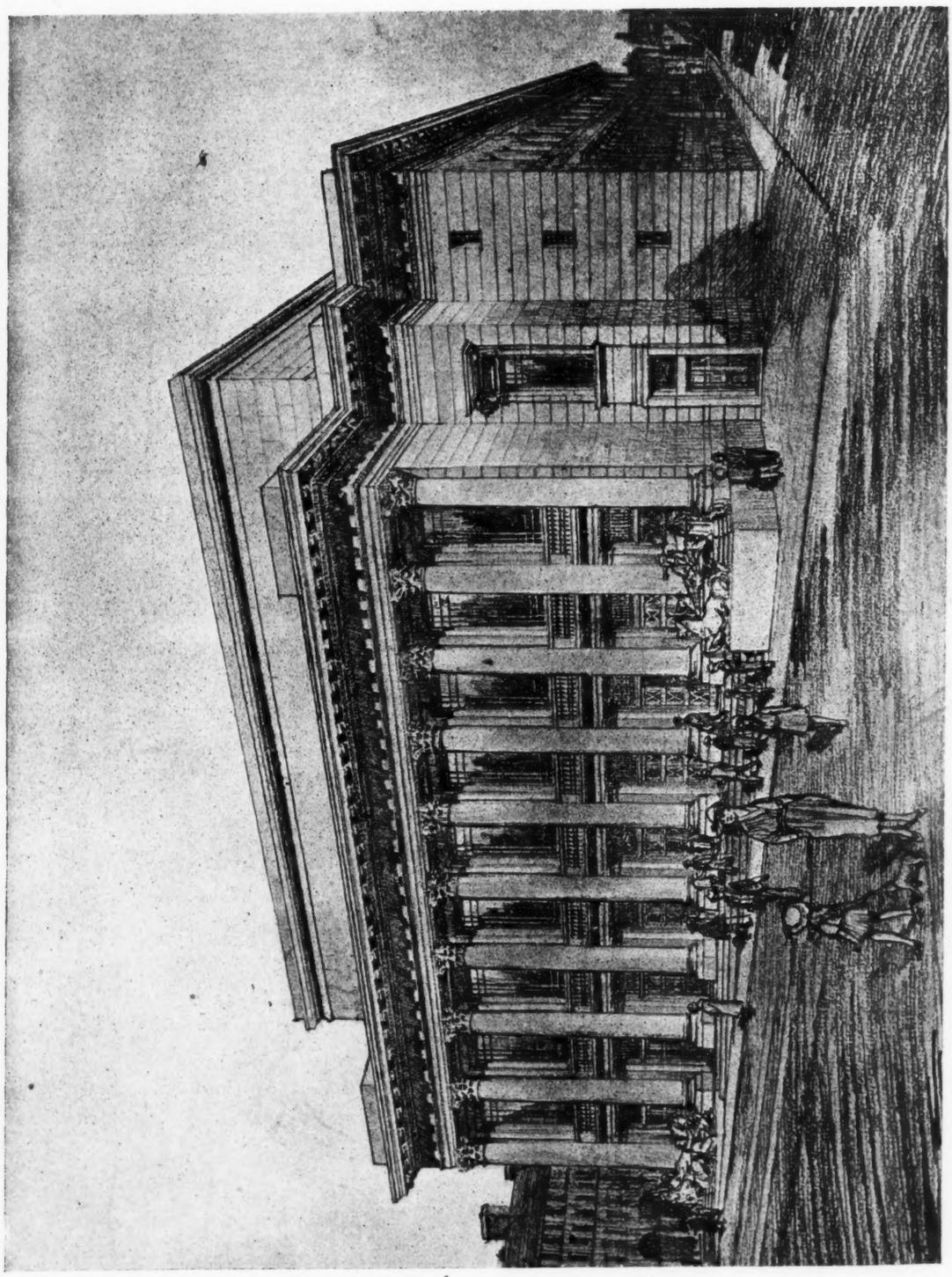
MR. R. R. PRENTICE, ARCHITECT.



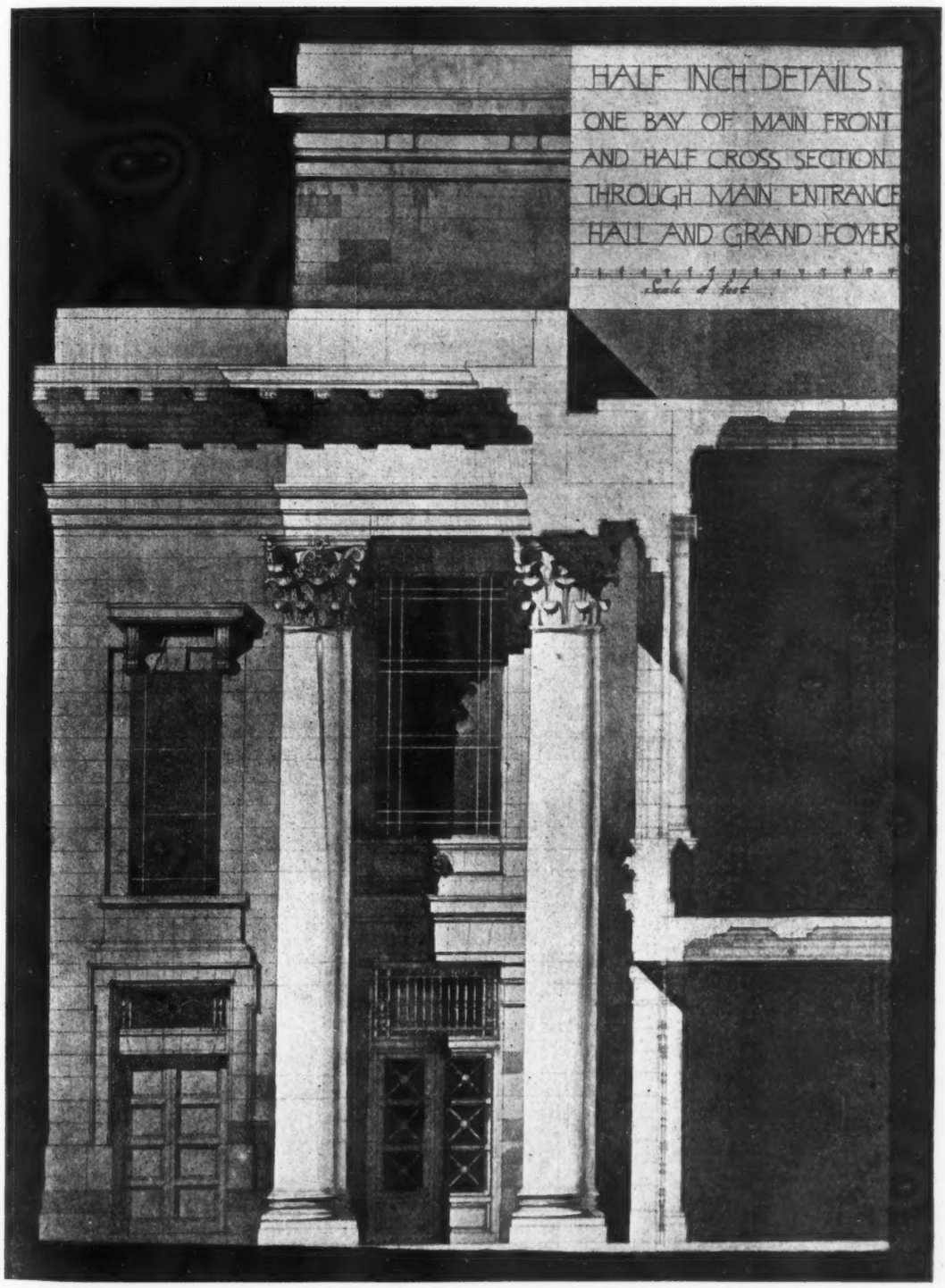


WAR MEMORIAL HALLS COMPETITION, SHEFFIELD: ACCEPTED DESIGN.

BY MR. E. VINCENT HARRIS, F.R.I.B.A.

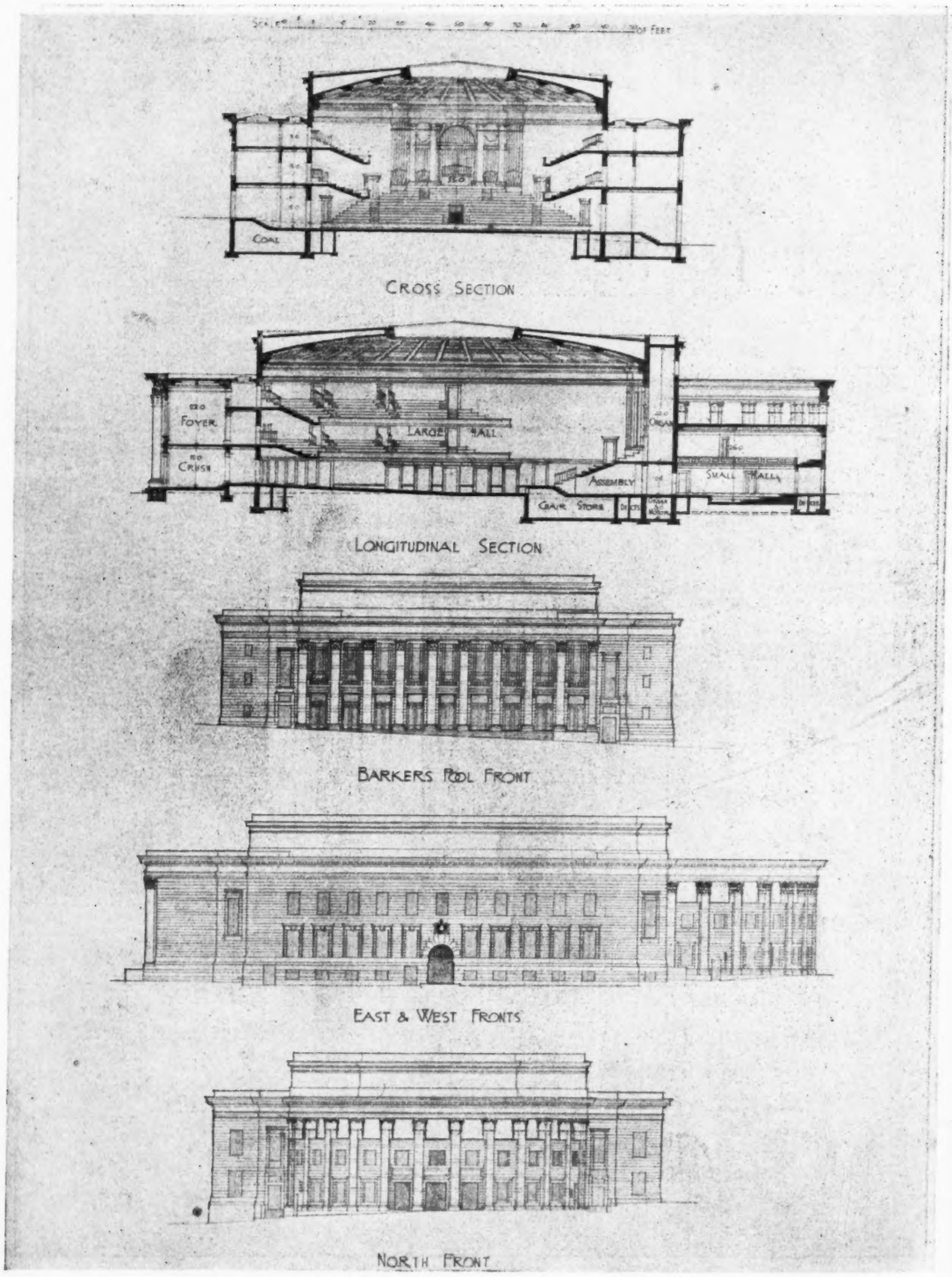


WAR MEMORIAL HALLS COMPETITION, SHEFFIELD: ACCEPTED DESIGN.
BY MR. E. VINCENT HARRIS, F.R.I.B.A



WAR MEMORIAL HALLS COMPETITION, SHEFFIELD ACCEPTED DESIGN

BY MR. E. VINCENT HARRIS, F.R.I.B.A.

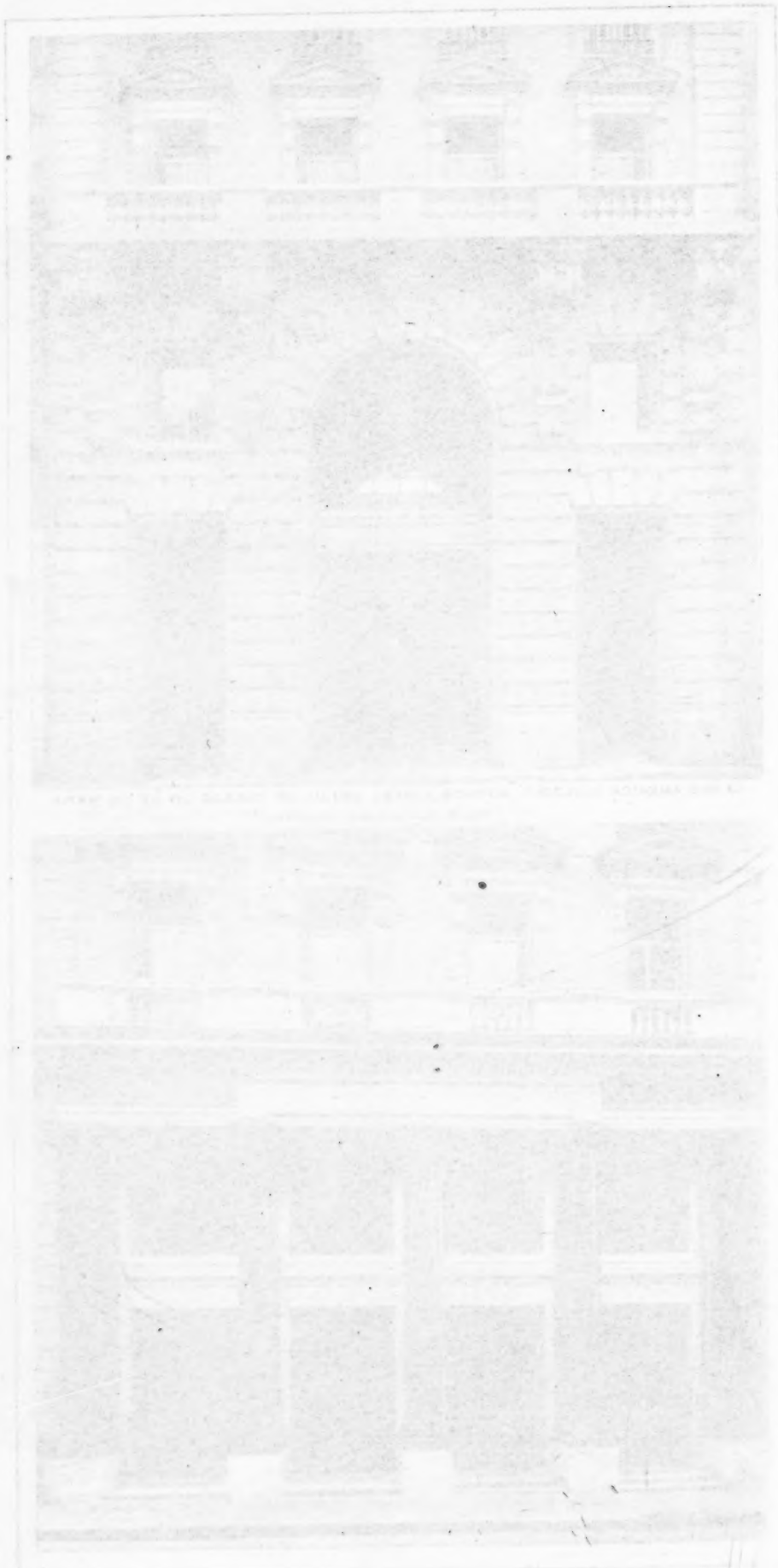


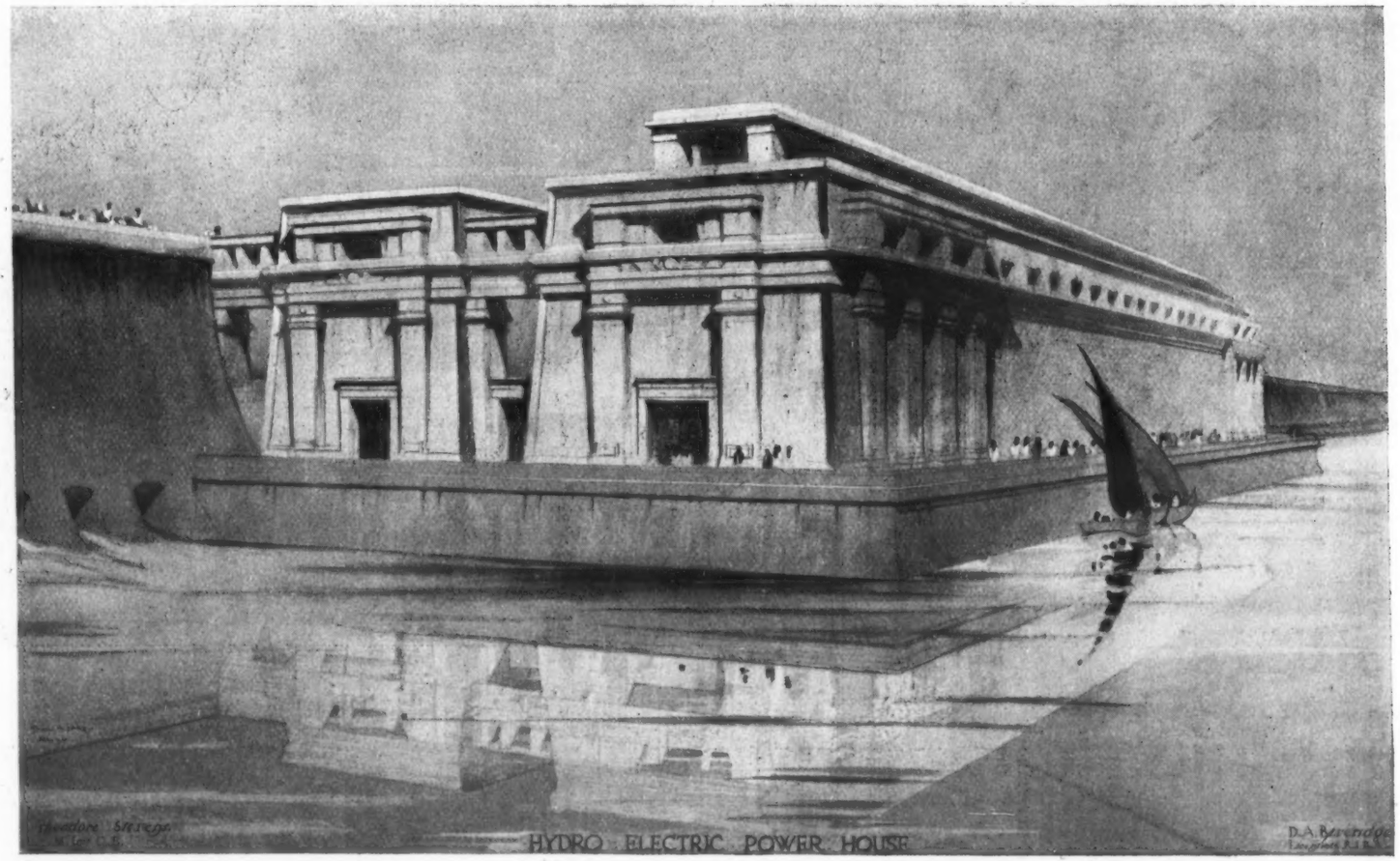
WAR MEMORIAL HALLS COMPETITION, SHEFFIELD ACCEPTED DESIGN.

BY MR. E. VINCENT HARRIS, F.R.I.B.A.

LA SUD AMERICA BUILDING, BUENOS AYRES: DETAIL OF FACADE ON 25 DE MAYO.
MR. R. R. PRENTICE, ARCHITECT

LA SUD AMERICA BUILDING, BUENOS AYRES: DETAIL OF FACADE ON PASEO DE JULIO.
MR R. R. PRENTICE, ARCHITECT.





Proposed Hydro-Electric Power House, Assuan Dam, Egypt.

By Mr. D. A. Beveridge, Lic.R.I.B.A.

[The dam forming the reservoir is over 2,000 yards in length, and was built in 1902. It was originally designed for the present finished height, but to avoid submerging the temples on the island of Philæ (a short distance up stream) it was kept 15 ft. lower. A few years later, however, an additional 15 ft. was added to increase water storage, as the quantity was found insufficient. The Philæ Temples are now, unfortunately, submerged up to the capitals of the columns. The discharge of water from the dam varies from 500 to over 5,000 tons per second, with a low head accompanying the large flow. The proposal illustrated covers 20 out of a total of 180 sluices in the dam, and gives constant power at constant speed throughout the year. Many schemes were prepared, and an endeavour has been made in this design to conform to the austere character and general lines of the dam, with architectural features in keeping with Philæ and other examples in Upper Egypt, adapted to the requirements of a building of this description. Structural steelwork has been reduced to a minimum owing to difficulties of transport. Local grey granite, similar to that used for the dam, is proposed for the facework. The consulting engineer is Mr. Theodore Stevens, M.Inst.C.E., M.Inst.M.E., M.I.E.E.]

THE DEVELOPMENT OF ARCHITECTURAL EDUCATION.

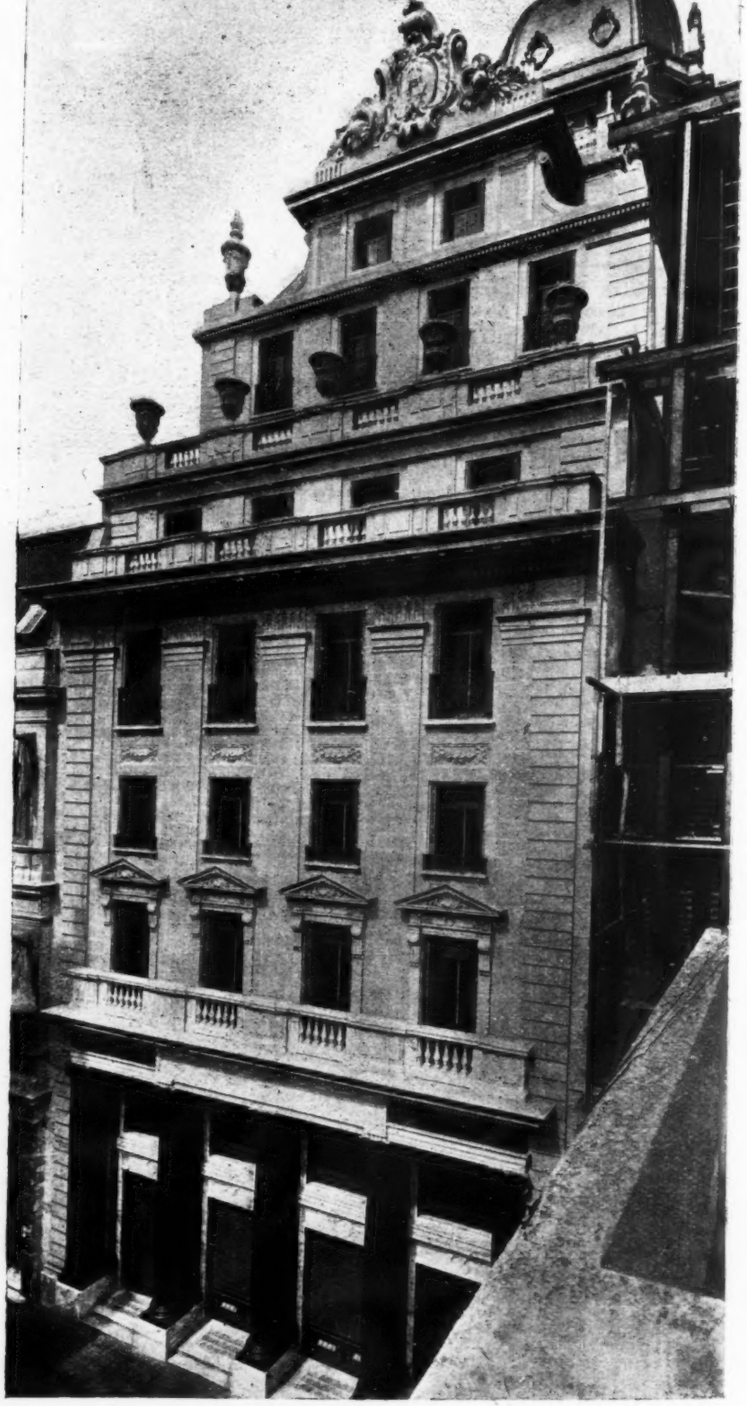
By W. S. PURCHON, M.A., A.R.I.B.A.

THE decision of the Royal Institute of British Architects to encourage longer courses of education in our schools of architecture, by granting exemption from the major portion of the Final Examination to students who pass successfully through approved courses of five years' duration at the Architectural Association Schools and the Liverpool School of Architecture, is a step which must have far-reaching effects. It must also be the hope of other schools to build up similar courses, differing, no doubt, in details, in other centres, so that in all probability in a few years' time all the well-known schools, and possibly some less well known at the moment, will be able to offer their students similar facilities to those at present available at the University of Liverpool and the A.A. Schools.

There are, at the present time, some nine or ten schools "recognised" by the R.I.B.A. up to the level of the Institute's Intermediate Examination. Some of these schools are smaller than others, but it may safely be said that all have done useful work, and those who are closely connected with the Institute's fine efforts towards the improvement of architectural education must have felt that the step of granting exemption from the Intermediate to students in these schools has been thoroughly justified. It is clear that the schools are being given increased responsibilities, and those who know the schools well are convinced that they will rise to the occasion and prove, even to the doubting ones, that the confidence placed in them has been justified at least as fully as in the case of the exemption from the Intermediate. It is clearly up to the schools to show that they can reach a higher standard than that normally expected in the Institute Final Examination, not only in Design but in the other subjects of that test, and also that they can co-ordinate all the subjects into a unified scheme in such a manner that the whole idea of advanced education in architecture will be lifted to a higher plane.

One point that has been raised, and it certainly calls for careful consideration, is the question as to whether these advanced school courses will lead to qualification for the R.I.B.A. Final without office experience. Years ago similar doubts were raised about the three-years' full-time school course, but most of those who are qualified to judge would state emphatically that, with the possible exception of a few special cases, this gives far better results than the older method. Still, five years in a school, it may well be argued, is another matter, and the majority of architects would probably agree that the fourth and fifth years should be spent partly in the schools and partly in offices. Numbers of architects would doubtless gladly avail themselves of the part-time services of such students. The Institute asks for not less than half time in the schools in the fourth and fifth years, and the method of dividing up the time will probably differ in the various centres. One method is that of spending half of each week in the school and the other half in the office, and another method consists in spending six months full time in the school and six months in the office in each of the last two years; in the writer's opinion the latter is the better method, being likely to yield better results in the school and to be far more convenient in the office.

Those who are familiar with the work of the leading schools will be in no doubt as to the safety of leaving to these institutions a very large measure of responsibility in the subject of Design. The schools will, however, in the new scheme also be responsible in a similar degree for such subjects as Theoretical and Applied Construction, Materials and Sanitation; this re-



La Sud America Building, Buenos Ayres: Façade on 25 de Mayo.
MR. R. R. PRENTICE, Architect.

sponsibility is also a great opportunity, and should lead to fine results.

In the recent past, broadly speaking, the teaching of construction has left something to be desired. Frequently it has had little or no connection with modern architecture, though here and there the attempt has been made, mainly perhaps in the earlier stages, to deal with construction more reasonably. Beyond the level of, say, the Institute Intermediate Examination, there has been definite bifurcation, academic design on the one hand, and advanced construction bearing little or no relation to it on the other. Now arises the opportunity of keeping together to the end two branches of study which never ought to have been separated, and gradually our designs will benefit to the full from the possibilities of modern methods of construction in ferro-concrete, structural steel and the like, and our study of construction will include the working out of complete constructive details of our outline designs.

There are also excellent opportunities for the development of the study of materials. Instead of the usual study of text books, local materials can receive special attention, tests of actual samples should be carried out more thoroughly; the appropriate use of various materials in design is a very fruitful field of study. In sanitation, again, there is plenty of room for serious work, and for linking up with studies in modern design. Schemes for lighting, heating, ventilating and drainage should be worked out for the buildings designed by the students, and the designs should be checked from the point of view of modern sanitation.

While the schools are not to be made responsible for the examinations in Professional Practice, and while this subject (like all the others) can only be mastered by actual experience, sound and useful work can be done in the schools, particularly in dealing systematically with main principles. Specifications and estimates can be prepared with advantage for the designs worked out by the students, and a special effort should be made to deal with specifications in a modern manner, as these documents too frequently contain an excessive proportion of dead matter. Recently considerable strides have been made by students in the preparation of drawings of an academic type, but there is great need for a higher standard in working drawings. The student who goes through a five-years' course should certainly be able to turn out an accurate set of working drawings, complete in all details.

Great good has resulted in the past from higher studies in our universities in Pure Science, Applied Science and Medicine, largely because of the importance which has been attached to the carrying out of research work. If our schools of architecture set themselves similar ideals, as they assuredly ought to do, there are ample fields for valuable work in the study of modern methods of construction, the development of modern design, the properties and uses of materials, and in sanitation. One special problem may be suggested—acoustics. Frequent experience of public halls in which a speaker can only be heard with difficulty makes the writer feel that serious study of this problem is a real necessity.

The Camerons' War Memorial.

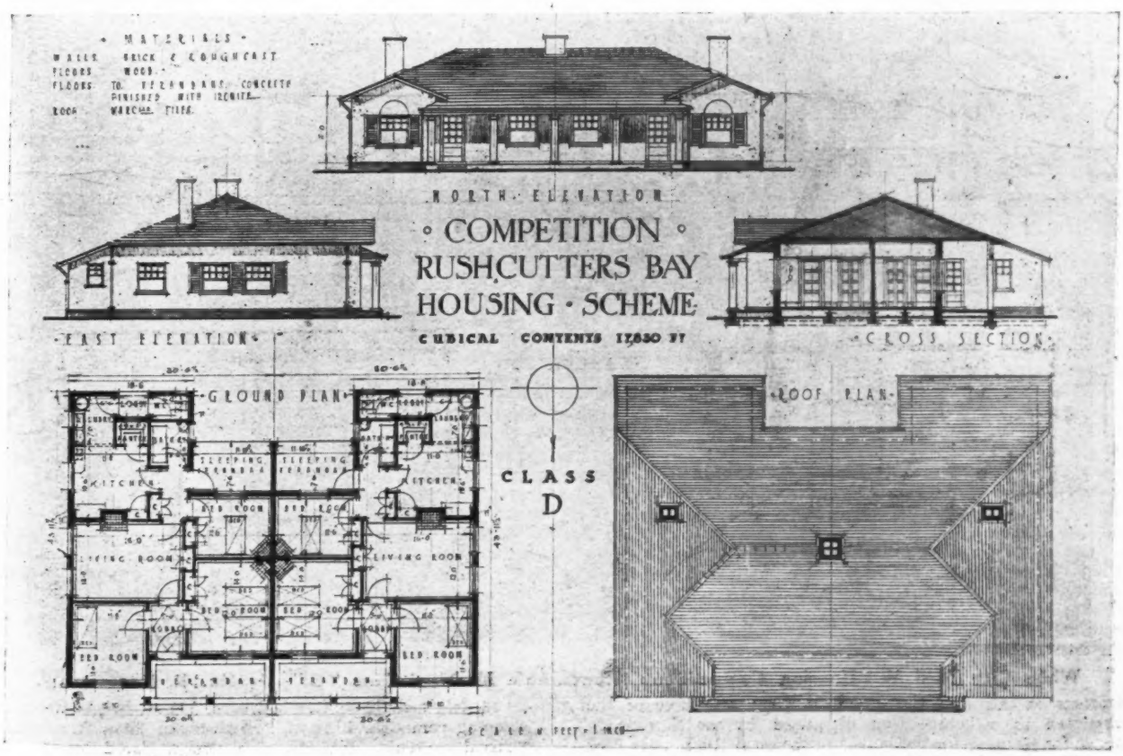
An appeal for funds is being made on behalf of the Queen's Own Cameron Highlanders' war memorial, which will include the equipment and furnishing of the room at Edinburgh Castle set apart for the regiment under the Scottish National War Memorial Scheme.

INCREASE OF RENT.

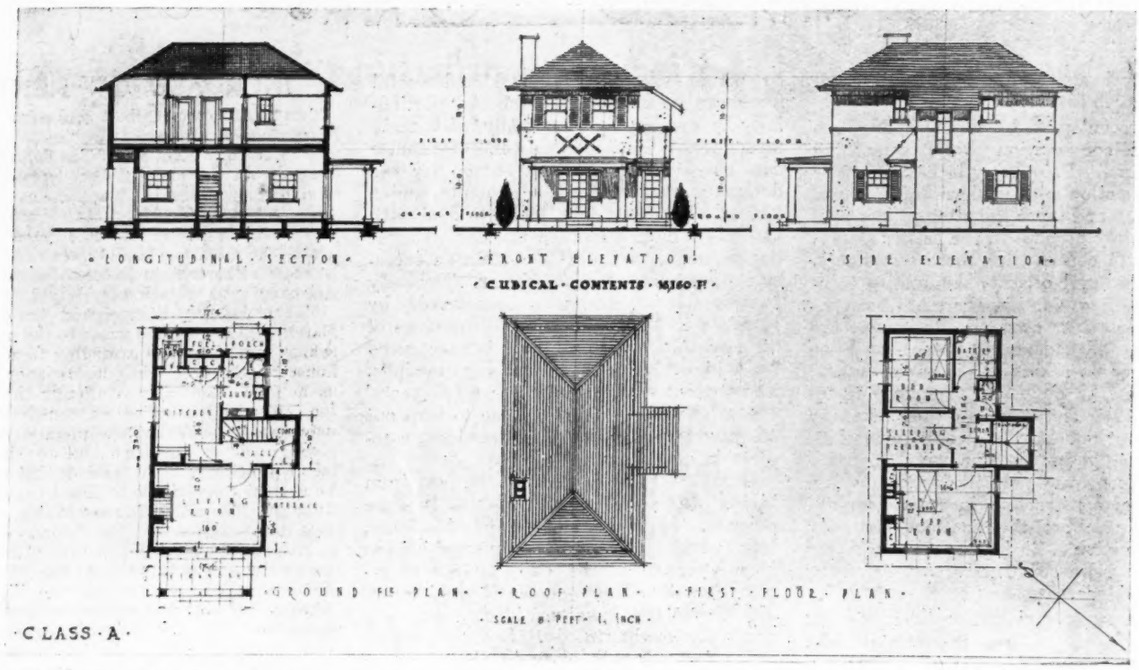
THE recent case, Gilbert *v.* Jordan (*Weekly Notes*, August 14), raised two points under the new Increase of Rent Act. The defendant was tenant from the plaintiff's predecessor in title of a dwelling-house at Pangbourne for three years from May 9, 1916, and thereafter for one year certain expiring May 9, 1920, at a rental which exceeded the limits prescribed by the Increase of Rent Acts in force before the new Act came into operation on July 2, 1920.

The plaintiff had purchased the house on March 15, 1920, and he wrote to the defendant, asking him if he was arranging to vacate the house on the date when his tenancy expired, as he (the plaintiff) was offering the freehold for sale with possession on completion. The defendant replied that the premises would be given up "at the time and to the person legally entitled," but added that it would be a great convenience to him to remain until June 24. The plaintiff agreed to this, but, when that date was reached, the defendant declined to give up possession, and on June 28 the plaintiff issued the writ in this action; the defendant, in defence, relied upon the Increase of Rent Act, 1920, as the rent was within the limits therein prescribed. For the plaintiff, it was contended that, at the date when the Act came into force, the house was not "let," the expression used in Section 12 subs. (2), as the tenancy had expired before that date, and the defendant by retaining possession was a trespasser and not a tenant, and never came within the Act at all. The Court held that the Act applied, and dealt with the case under Section 5, subs. (1) (*c*). which provides that no order for possession shall be made unless "the tenant has given notice to quit, and in consequence of that notice the landlord has contracted to sell or let the dwelling-house or has taken any other steps as a result of which he would in the opinion of the Court be seriously prejudiced if he could not obtain possession."

The Court held that the plaintiff, having contracted to sell the house with vacant possession on the faith of the defendant's notice of intention to leave on the date named, was entitled to an order for possession.



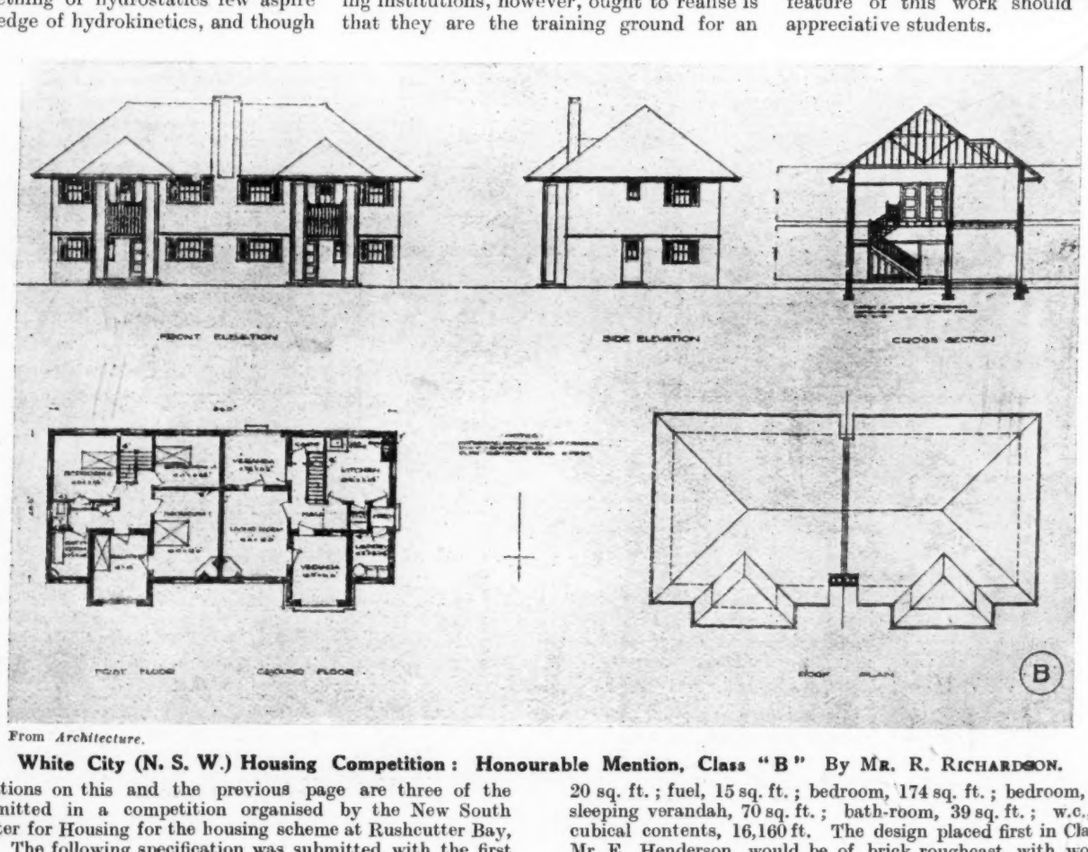
White City (N.S.W.) Housing Competition: First Premiated Design, Class "D" Houses.
By MR. E. HENDERSON. (*See* p. 229.)



White City (N. S. W.) Housing Competition: First Premiated Design, Class "A" Houses. By MR. E. HENDERSON.

HYDRO-ELECTRIC ENGINEERING.

THE Conjoint Board of Scientific Societies was recently asked by the Committee on the Water Power of the Empire to bring to the notice of the Minister of Education the great lack of facilities which exist in our universities and technical institutions for the acquisition of knowledge relative to the use of water power. Although most of us know something of hydrostatics few aspire to a knowledge of hydrokinetics, and though we would not venture to say that this is a subject still unborn, we should find very few courses of work existing on this topic, the practical applications of which are great. Water power available in this country is not extensive, and its utilisation is often attended with considerable constructive works, but the transmission of this form of energy as high tension electricity is practicable over long distances, and the actual energy, apart from the price of development, costs nothing. What our teaching institutions, however, ought to realise is that they are the training ground for an increasing number of Colonial students in whose own countries the harnessing of water power may mean the development and productivity of vast areas of country. The initiation of suitable courses on hydrokinetics and its applications at a comparatively trifling outlay may well, therefore, lead to national development overseas as well as at home, which will amply repay the effort and expense lavished upon it. Given sufficient publicity three or four centres in this country making a special feature of this work should readily find appreciative students.



From *Architecture*.

White City (N. S. W.) Housing Competition: Honourable Mention, Class "B" By MR. R. RICHARDSON.

[The illustrations on this and the previous page are three of the designs submitted in a competition organised by the New South Wales Minister for Housing for the housing scheme at Rushcutter Bay, White City. The following specification was submitted with the first premiated design, by Mr. E. Henderson, for Class "A" houses:—Walls, concrete, 8 in. hollow; floors, wood; floors to verandahs, concrete, with ironite finish; roof, Marc-lie red tiles; living-room, 192 sq. ft.; kitchen, 133 sq. ft.; laundry, 54 sq. ft.; pantry, 20 sq. ft.; fuel, 15 sq. ft.; bedroom, 174 sq. ft.; bedroom, 104 sq. ft.; sleeping verandah, 70 sq. ft.; bath-room, 39 sq. ft.; w.c., 15 sq. ft.; cubical contents, 16,160 ft. The design placed first in Class "D," by Mr. E. Henderson, would be of brick roughcast, with wooden floors, concrete floors to verandah, finished with ironite, and tiled roof; cubical contents, 35,726 ft. The design awarded "Honourable Mention" for Class "B" houses, by Mr. R. Richardson, would be built of brick, with shingle tiles; cubical contents, 23,186 ft.]

LEGAL SECTION.

NOTES ON CURRENT CASES.

Trade Union Disputes.

IN our Legal Section, June 25, we commented on a decision White *v.* Riley and Wood (*Weekly Notes*, May 8), in which the Court had held that the action of certain members of a trade union in requiring a man to be dismissed was illegal and not within the protection of the Trade Disputes Act. We concluded our note by observing: "The line between legal and illegal action is sometimes very fine drawn, but so long as the case of Valentine *v.* Hyde holds good one fact is clear, *i.e.*, that a mere dispute amongst the men as to which union a man must belong to is not a trade dispute "within the Act."

Since that article was written the Court of Appeal has reversed the decision of the Court below in White *v.* Riley and Wood and considered the case of Valentine *v.* Hyde in the light of another decision in the recent case Hodges *v.* Webb (1920 2 Ch. 70), and it has thus become necessary to reconsider the questions involved in these cases.

The facts in White *v.* Riley and Wood are set out at length in our issue for June 25, and we cannot state them again in detail; but, shortly stated, the defendants, one of whom was a member of the executive committee and a district delegate of the Curriers' Union, and the other a shop steward, were sued by the plaintiff, a skilled machinist, because it was alleged that by conspiracy, threats, intimidation and coercion they had procured the dismissal of the plaintiff and caused a breach of contract. The dispute in question arose because the plaintiff was a member of a union other than that to which the rest of the men in the employ belonged, and there was a difference in the two unions as to the classification of skilled or semi-skilled men. The defendants had invited the plaintiff to join the Curriers' Union, but he had refused as he did not wish to leave his own union, and then the men working with him had intimated to the employers that they would cease work if the plaintiff continued in the employ and did not join their union. The plaintiff was dismissed without notice, but the men had agreed to indemnify the employers for the week's wages due in lieu of notice. The Court below had found that the defendants had conspired by threats to injure the plaintiff by obtaining his dismissal, and had induced and intentionally obtained, severally and in combination, a breach by the employers of the plaintiff's agreement of service whereby he had suffered damage.

The Court of Appeal has held that there was no evidence to support the above judgment, and has set it aside. The Court found there was no evidence of personal feeling on the part of the defendants or of threats, neither was there a breach of contract so far as the men were concerned. The plaintiff being a piece-worker, it may have been that he could be dismissed without notice, but it had been assumed he was entitled to notice or wages in lieu of notice, and although the wages had not been paid, that was through no fault of the men, as they had said they would find them. The mere statement of a number of workmen that they would not work with a certain other workman was not in itself actionable (Allen *v.* Flood, 1888 A.C.1).

The above is only a very brief summary of this part of the case, which cannot be dealt with thoroughly in a note, but we desire to refer to that part of the case which bears upon the Trade Disputes Act. The Court below had held on the authority of Valentine *v.* Hyde (*The Builder*, April 25, 1919) that a dispute such as the above between unionists as to which union a man should belong was not a dispute within section 5 subs. (3) of the Trade Disputes Act, 1906, as it was not connected with employment or non-employment. Section 5 subs. (3) is as follows:—"Trade dispute means any dispute between employers or workmen or between workmen and workmen which is connected with the employment or non-employment or the terms of employment or with the conditions of labour of any person." The Court of Appeal intimated that it preferred the reasoning applied by the Court in the case Hodges *v.* Webb (1920 2 Ch. 70) to that expressed in Valentine *v.* Hyde, and held that there was a "trade dispute" here between the workmen.

The case is too shortly reported at present to be considered in detail, and we defer further consideration of it, but we desire to call our readers' attention to the fact that the case of Valentine *v.* Hyde can no longer be relied upon as an authority for the proposition that a dispute between trade unionists as to which union a man shall belong to is not a dispute within the Trade Disputes Act.

It may be useful shortly to consider the case Hodges *v.* Webb, as it has received approval by the Court of Appeal. The plaintiff in that case was a "charge hand" in the employ of Messrs. Tyler & Freeman, and he was a member of the National Association of Supervising Electricians. The defendant was district secretary of another union, the Electrical Trades Union. There had been questions between the two unions and this was known to Messrs. Tyler & Freeman, for they were members of an employers' association which had taken a strong view of the objections raised to members of the N.A.S.E. working with members of the Electrical Trades Union, as well as to the objection of members of the latter union to work with non-unionists. In August, 1919, Messrs. Tyler & Freeman, in connection with a contract at Watford, had employed several members of the Electrical Trades Union, some non-union men, and the plaintiff, and in September, complaints having been made by some of the men as to the employment of non-union men and other questions, the defendant had been instructed by the London District Executive of the Electrical Trades Union to go to Watford and in conjunction with two other delegates to clear up any grievances, and he had authority to withdraw men from work.

The defendant had in October gone to the works and interviewed the men who had been assembled, and those who were non-unionists had, without any pressure, at once consented to join the union. Up to that time the defendant had not even heard of the plaintiff, but when the plaintiff came up the defendant asked him if he had an E.T.U. ticket, and he replied he was a member of the N.A.S.E.; the defendant then invited him to join the E.T.U., and as he declined to do so the defendant told him that he (the defendant) would have to call the men off the job, and that they would not return unless the plaintiff was off the job.

There was a further interview between the plaintiff and the defendant, at which some reference was made to the plaintiff having at some time been a member of the E.T.U., and it was alleged some threat had been made by the defendant, but the Judge, at the trial, found that practically all that was said by the defendant was that trouble would occur on any job on which the plaintiff was employed. There was some correspondence between representatives of the union and the firm, and eventually the firm dismissed the plaintiff. The learned Judge found that the men were withdrawn because the plaintiff refused to join the union, but he expressly found that in this case there was no allegation that the defendant induced any breach of contract between the employers and their workmen or that there was any allegation of conspiracy or unlawful combination.

This differentiates the case from White *v.* Riley, for there both breach of contract and conspiracy were alleged. The first point the Court addressed itself to was whether Messrs. Tyler had been coerced into discharging the plaintiff, and it was pointed out that this was not the case of a meddler or busybody taking action as in the case Conway *v.* Wade (1909, A. C. 506) but an authorised official of a trade union.

Before the passing of the Trade Disputes Act, it was laid down by Lord Watson in Allen *v.* Flood (1898, A. C. 1) that there are only two grounds upon which a person who procures the act of another can be made legally responsible for its consequences, *i.e.*, if he knowingly and for his own ends induces the commission of an actionable wrong, or, if although the act induced is within his immediate right and not, therefore, wrongful so far as he is concerned, but may be detrimental to a third party, the inducer uses illegal means directed against the third party. The learned Judge cited the above judgment and then said that in any event after the passing of the Trade Disputes Act it was impossible to argue that if a trade union official authorised by the union calls out the members he could be sued merely on the ground that he interfered with the business of the employer or the employment of any person.

This led the Court to consider whether in this case there was a trade dispute within the meaning of the Act and whether the decision in Valentine *v.* Hyde prevented the Court from so holding, and the Court differentiated the case from that of Valentine *v.* Hyde by holding that here there was a dispute between the masters' association, of which Messrs. Tyler were members, and the E.T.U. In Valentine's case there was no dispute except between the workmen, but in White *v.* Riley it must be remembered there was equally only a dispute between the workmen, but the Court of Appeal held that the Act applied, and referred to the reasoning of the Court in Hodge's case. Now, in that case Mr. Justice Petersen, speaking of such a dispute between workmen and workmen, put the matter thus: "If a dispute must be, in the words of Mr. Justice Astbury in Valentine's case, 'connected directly with employment or non-employment and not a dispute about some entirely different subject matter, the non-settlement of which may result in employment or non-employment, the existence, terms or conditions of which are not in contest,' it would seem that the common difference between workmen and workmen on the subject of non-unionist labour is excluded from the operation of sections 3 and 5 of the Act, for the objection is not to their employment simpliciter, but to their employment because, or if, they do not join the union. As I gather the suggestion is that in that case the quarrel with the men is that they will not join the union and the quarrel with the employer is that he employs them, although they will not join the union. It may be doubted whether the true view is not that both quarrels are disputes which are connected with employment."

This, no doubt, is the reasoning which received the approval of the Court of Appeal, and therefore it is no longer possible to rely on the case of Valentine *v.* Hyde, or to say that the Trade Disputes Act does not apply to a dispute between members of two unions or between members of a union and non-unionists. In Hodges' case, the Court having found that there was a dispute to which the Act applied, had yet to consider whether threats or coercion had been employed such as to deprive the defendant of the protection of that Act. We must refer to the rest of the case very briefly. The Court held that there was no coercion nor any threats applied to Messrs. Tyler. The men were called out, but the defendant when asked had assured the firm that they would return if the plaintiff was discharged. The Court relied on the case, Allen *v.* Flood (1892, A.C. 125).

The Court had also to consider whether the defendant threatened the plaintiff illegally, that is, in such terms as to lose the protection of the Trade Disputes Act (see Conway *v.* Wade, 1909, A.C. 506). This part of the judgment is very instructive, but involves too complex

considerations to be dealt with in this note. Leaving out threats of violence and cases of conspiracy or unlawful combination, the reasoning of the Court appears to amount to this: that a statement that a person intends to do something that he is legally entitled to do does not amount to unlawful pressure. Therefore, as it is lawful for men to cease work, it cannot be unlawful for them in a body or by one of the officials of the union to inform the employers of their intention to do so; and the Court found that there had been no threats on either occasion, and the action failed.

The law relating to trade disputes is extremely complicated, especially where questions of conspiracy or unlawful combination are raised; but the above cases have illustrated two propositions, firstly, that a dispute between workmen as to which union a man shall belong to is not outside the Trade Disputes Act (White *v.* Riley); and, secondly, that, in the absence of conspiracy or coercion, a notice by the men, or a trade union official speaking for them or the union, that the men will be withdrawn is not a threat dis-entitling the person giving it to the protection of the Act (Hodges *v.* Webb). It only remains to point out that in White *v.* Riley the Court of Appeal did not decide whether the dispute between the workmen involved a dispute between the employers and the workmen, as was the opinion expressed by Mr. Justice Peterson in Hodges *v.* Webb.

In the Court of Appeal, the Master of the Rolls observed that it was quite possible that the extension of the Trade Disputes Act to disputes between workmen and workmen had had results which were not anticipated and which might be deplored by both trade unionists and employers. It is certainly regrettable that such disputes should arise at all. So long as trade unions are benefit societies it is hard that a man should be called upon to leave a union he has subscribed to for many years at the risk of losing benefits, and it complicates the relations between employer and employed if what may be termed domestic disputes between unions are made a cause for ceasing work; but it is the liberty of the individual workman which is the most restricted by this extension of the Act.

Resale of Land Compulsorily Taken.

A case before the Railway and Canal Commission, Minister of Munitions *v.* Mackrill (*Times*, July 2), is of some interest. In 1916, the Ministry of Munitions, under the Defence of the Realm (Consolidation) Act, 1916, had taken possession of some land owned by the respondent, who was a builder who used the land in connection with his business for storing building materials, and the Ministry had erected thereon buildings of a permanent nature, at a cost of some £2,500. The Ministry was now desirous of selling this land and buildings to a distillery company, and applied to the Commission for consent to this sale, under section 13 of the Defence of the Realm (Acquisition of Land) Act, 1916. The respondent was unwilling to part with the property, and it appears he was willing to acquire the buildings on as favourable terms to the Ministry as under the contract of sale to the Distillery Co., and that he would be seriously hampered in his business if he was deprived of the premises.

The Commission held that the land was not being required by the Ministry for any of the special purposes defined by the various Acts for the purpose of defence or naval or military objects (in which case power was conferred upon them to acquire compulsorily without the owner's consent), and, in the circumstances, it refused consent to the sale in the exercise of its discretion. The Court intimated that injustice to the owner, as well as public expediency, had to be taken into consideration.

It is to be noted that the Ministry had not offered the respondent the opportunity of re-acquiring the land; and, although the Court intimated that the Ministry was not bound to do so, it surely is surprising that this courtesy was not extended to the former owner of the property before offering it to another firm. Government departments would be well advised if they considered individuals a little more and did not act in an apparently high-handed manner. The loyalty shown during the war is ill requited if departments act with so little apparent consideration, and in the event of another time of national emergency such action will prove to have prejudicial influences.

Increase of Rent.

In a recent case, Benabo *v.* Horseley (*The Times*, July 29), it appears that possession was claimed of a house let at a weekly tenancy on the ground that default had been made in the payment of rent. In the report it is not stated how much the rent was in arrear, and there seems to have been some arrangement as to payment, for the report states that the County Court Judge had refused the application because he was satisfied that the tenant would comply with an undertaking he had given to pay the rent as it fell due in future. The Divisional Court, on appeal, intimated that the Court below was wrong in dealing with the matter from the point of view that the defendant would comply with the terms of the tenancy at a future date, and the case was remitted to the County Court.

The Court intimated that, under the Act of December, 1919, an order for possession should have been made as the provisions of section 1 subs. (1) had not been complied with, but that the matter must now be considered in connection with the new Act.

The material words of section 1 subs. (1) of the Act of December, 1919, are: "No order or judgment for the recovery of possession of a dwelling house . . . shall be made so long as the tenant continues to pay rent at the agreed rate . . ." In section 5 subs. (1) of the new Act no order for possession shall be made "unless any rent lawfully due from the tenant has not been paid." Thus the words of the new Act seem rather stronger. The case is at present very briefly reported and cannot be commented on in detail.

LAW REPORTS.

Injury during Alterations.

A CASE was recently heard in the King's Bench Division, before Mr. Justice Acton, in which Mrs. C. G. Ridgewell, of Islington, sued Messrs. Cannon & Hefford, builders and contractors, of Peckham, for damages for a fractured skull sustained through the fall of a pipe at the Aircraft Production Refreshment Club, in Kingsway, where the defendants were engaged upon alterations, and the plaintiff was cashier.

Mr. Justice Acton, in giving judgment, said alterations were going forward and the defendants were installing hot water apparatus, and had put up a length of pipe along the top of a window overlooking Kingsway, and hung another pipe from the ceiling at right angles to it. The second pipe was 17 ft. long, weighing 160 lbs. or 180 lbs., and it was slung 30 in. from the ceiling on a pair of caliper clips at either end. The clips, if sound, were capable of carrying a weight up to 1 ton, but those at one end were, he found, unsound by reason of sandholes, or blow holes. Between the pipes a connection was to be made by letting in an elbow. While the workmen were at work the plaintiff sat at a table immediately underneath the second pipe with the defective clips, and in so doing his Lordship found there was no negligence on her part, and that she received no warning or instructions from any person that it was unsafe to remain there. The pipe fell upon her, inflicting serious injuries, and the cause of its fall was that the clips were unsound. The workmen were under a legal duty to persons lawfully in proximity to them to exercise reasonable care and skill in carrying on their operations, and plaintiff's counsel complained (*a*) that there had been no examination or test of the clips to ascertain the existence of sandholes, and (*b*) that defendant's workmen were negligent in not warning the plaintiff. Defendants replied that the fact that there was no examination or test was in accordance with the practice of their business, and that it was not reasonably practicable because it postulated an unreasonable and ideal standard of care which was not reasonably consistent with the exigencies of commerce. The accident was an inevitable accident for which they were not liable.

His Lordship said that where clips were employed near the ground it might be reasonable to proceed without examination of them, but it was a different matter where danger was involved. Of that risk they were perfectly aware and it was a constant and appreciable risk. There were tests which would reveal the presence of sandholes, one of them the application of testing weight or strain. But they said "We applied none of these tests because it is not the practice in the trade to do so, and it would have added materially to the expense of the work." It was said the orifices here were too small to be detected with the naked eye, but his Lordship saw them after the clips had been broken across. If it had been discovered that even one of these two defective clips was sound there would have been no accident. Testing by weight or strain up to a ton would certainly eliminate all rotten clips, and he thought it very desirable before clips were used to suspend pipes that such means should be employed to eliminate all clips which were rotten with sandholes.

An expert called at the end of the case (Mr. Wm. John Morris) said that to find out a sandhole in a cast-iron clip it had to be thoroughly washed in water and inspected. An inspector would also use a pricker and go over the surface of the casting to see whether he could detect sandholes. That was not done. The orifices of sandholes would become visible on the casting being thoroughly washed.

His Lordship was of opinion that there was evidence on which he could find that there was such a want of care as warranted him in finding there was negligence on the part of the defendants' workmen in having applied no test or examination to discover whether there were sandholes before putting the clips to this particular use. He found a want of care and breach of duty to those in the neighbourhood of the workmen, in the workmen not having requested or warned the plaintiff and other persons to move to some other part of the room. He assessed the damages at £350.

Failure to Give Notice.

At the Mansion House recently, a builder was summoned at the instance of Mr. John Todd, District Surveyor, for failing to give statutory notice in respect of fire-resisting doors, a self-closing door and smoke-proof doors which were being put in between 104, Upper Thames-street and premises in Swan-lane. Mr. Todd did not press for a conviction, but said that since the war there had been great laxity on the part of builders in sending these notices. Unfortunately, the work put in did not conform to the requirements of the Act. The size of fire-resisting doors had been fixed after severe tests, and those put in at the premises in question were too large. He was anxious for builders to understand that the regulation notices must be sent in. Defendant, who said he was ill at the time the work in question was commenced, promised to fulfil his obligations in future, and the summons was dismissed on payment of costs.

Glasgow Housing Exhibition.

Practically all the available space at the Housing and Health Exhibition to be held in the Kelvin Hall, Glasgow, next month has now been taken up by exhibitors and the show promises to be a highly successful one. The construction of the cottage, which is being erected by the Corporation under the supervision of Mr. Peter Fyfe, Director of Housing, is proceeding, and should prove an interesting feature. The cottage will be fully equipped with furniture, furnishings, and fittings.

UNEMPLOYMENT INSURANCE ACT, 1920.

THE Unemployment Insurance Act, 1920, which will come into operation on November 8, will extend compulsory insurance to substantially all persons for whom National Health Insurance contributions have now to be paid, except outworkers and persons employed in agriculture and private domestic service. The employees of local authorities, railways and certain other public utility undertakings, and persons with rights under a statutory superannuation scheme are also excepted if the Minister of Labour certifies that they are not subject to dismissal except for misconduct, and are employed under conditions which make insurance unnecessary, but generally the exceptions include only persons who are excepted from the Health Insurance Acts. A distinction from Health Insurance is that workpeople over 70 will be insurable, except in the case of Old Age Pensioners.

It is anticipated that the Act will bring into insurance against unemployment an additional eight million persons, making the total number insured about twelve million, including non-manual workers in receipt of remuneration not exceeding in value £250 a year. It is expected that about eight millions will be insured under the general scheme, and that ultimately about four millions will come under special schemes which may be set up by industries which contract out of the general scheme.

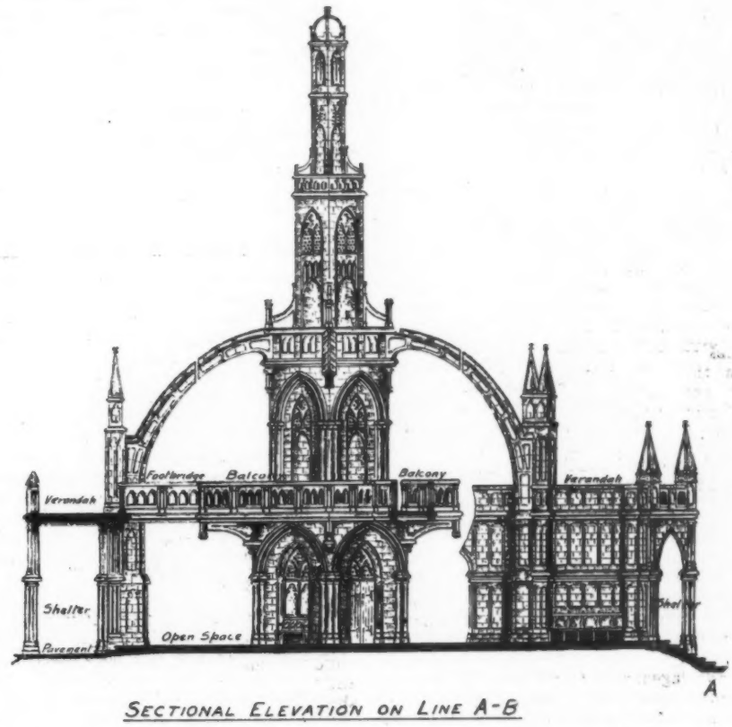
CONTRIBUTIONS.—The general scheme provides for a weekly contribution at the following rates:—men of 18 and over, employer 4d., employee 4d.; women of 18 and over, employer 3½d., employee 3d.; boys of 16 and under 18, employer 2d., employee 2d.; girls of 16 and under 18, employer 2d., employee 1½d. Payment will be made by the employer affixing special unemployment insurance stamps to unemployment books, which will be issued to employed persons through the Employment Exchanges. The books will be current for the period from November 8, 1920, to July 3, 1921. For every contribution paid in respect of men and women the State will contribute 2d. and 1½d. respectively, and proportionate amounts in the case of boys and girls. Workpeople insured under previous Acts will not be required to obtain new books, and their previous contributions will be treated as an equal number of contributions under the new Act.

BENEFITS.—Unemployment benefit will be at the rate of 15s. per week for men and 12s. per week for women. Contributors under 18 are entitled to half the full rate. No benefit is payable for the first three days of unemployment, which constitutes a "waiting period." Thereafter it is payable for a maximum of 15 weeks in any insurance year, subject to the limitation that the amount of benefit drawn must not exceed the proportion of one week for every six contributions. During the first year, benefit up to eight weeks may be claimed as soon as four contributions have been paid. An insured contributor whose claim to benefit has been disallowed will have an appeal to a Court of Referees, and in certain cases a further appeal to the Umpire appointed by the Crown, whose decision is final.

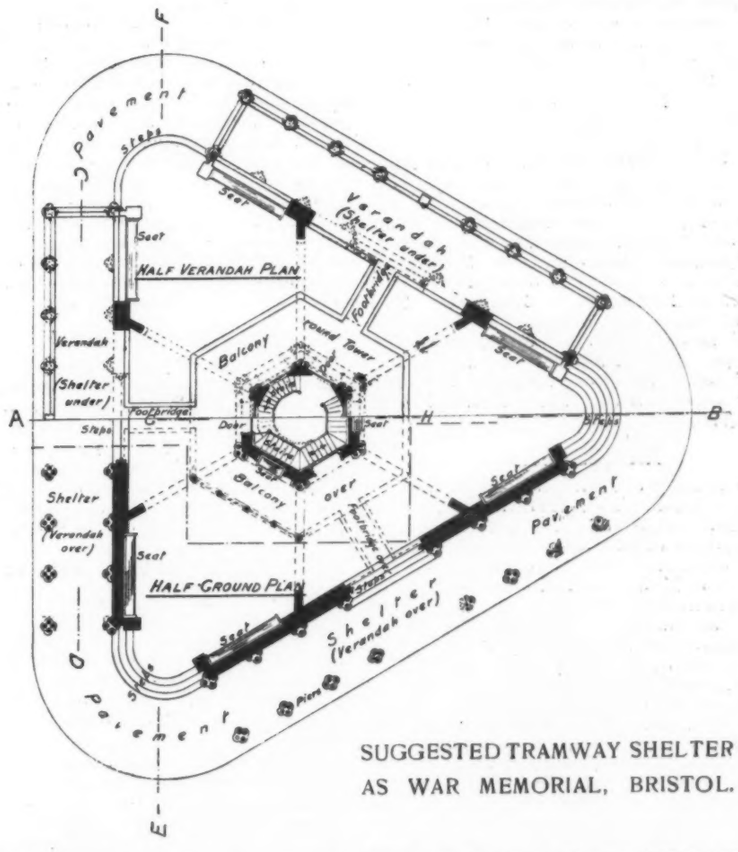
ARRANGEMENTS WITH ASSOCIATIONS AND SOCIETIES.—An association or society which provides unemployment benefit from its own funds, and has a system which in the opinion of the Minister of Labour is effective for obtaining and notifying to its members particulars of suitable vacancies, may, subject to the approval of the Minister, make arrangements for paying out the State benefit to which its members become entitled. Persons who are not members of such associations will under the general scheme draw their benefit through the Employment Exchanges.

RETURN OF CONTRIBUTIONS AT AGE OF SIXTY.—Insured contributors who have made 500 contributions (or a smaller number if over the age of 55 on entry into insurance) will, on reaching the age of 60, be entitled to a refund of the amount of their own contributions less any benefit paid, together with interest.

SPECIAL SCHEMES FOR INDUSTRIES.—Industries which are willing and able to do so may, with the approval of the Minister of Labour, contract out of the scheme of insurance by setting up special schemes of their own, giving equal or superior advantages. Such schemes when approved will have statutory effect. As from November 8, Unemployment Insurance



SECTIONAL ELEVATION ON LINE A-B



SUGGESTED TRAMWAY SHELTER AS WAR MEMORIAL, BRISTOL.

[The above drawing and plan are a suggestion by Mr. T. G. Howes Thomas, A.M.Inst.C.E., of Bristol, for a utilitarian war memorial, which it is proposed should be erected at the Bristol tramways centre. The chief aim has been to preserve the open space as much as possible, and consequently a cloistral system of shelters connected with a central tower is arranged. There are shelters along each side, with verandahs, connected with the central tower by footbridges, above. Memorial tablets could be placed in the window spaces of the tower.]

contributions will be payable in respect of all employed persons either under a special scheme for the particular industry, or, if such a scheme has not been set up, under the general scheme. In the case of industries for which special schemes are proposed, but have not been actually set up by November 8, contributions under the general scheme paid during the current insurance year by the employers and employees concerned (less expenditure on benefit and administration) will subsequently be paid over to the special scheme, together with a State grant, provided the scheme is brought into operation not later than July 4, 1921. If desired, two or more industries may combine to set up a special scheme. Special schemes will be administered by a joint board of management representing employers and employed on behalf of the industry or industries concerned, and the form and amount of the contributions and benefits will be determined in the scheme itself, and need not be the same as those laid down in the general scheme.

SUPPLEMENTARY SCHEMES.—The Act further provides that an industry which does not contract out under a special scheme, but remains under the general scheme, may set up a supplementary scheme of contributions and benefits with statutory effect in order to provide additional benefits including payment for short time and the three waiting days.

Leicester Housing Architect.

Mr. J. Simpson Fyfe, A.R.I.B.A., has been appointed Housing Architect to the Corporation of Leicester.

The Dagenham Housing Scheme.

A report issued by the London County Council gives some statistics regarding the Dagenham housing scheme. The total area of the site is 3,000 acres, and the north-western section, near Ilford, will be developed first. This section has an area of 310 acres, and among other dwellings will contain 1,420 working-class houses. The total cost of the whole scheme is estimated at £30,000,000, of which £5,000,000 has been voted by the Council on account. Arterial roads 120 ft. wide are to be constructed on the estate. Exclusive of the cost of land beyond that actually to be developed, the capital outlay was estimated in July last as follows:—29,000 cottage dwellings, including land, laying out, and buildings, from £23,560,000 to £24,820,000; slum clearances, £2,000,000; re-housing on cleared slum areas, £3,370,000; total, from £28,930,000 to £30,190,000. The financial result was estimated as follows:—Annual deficit on erection of 29,000 cottage dwellings, from £1,015,645 to £1,091,615; annual deficit on block dwellings, £108,527; total annual deficit, from £1,124,172 to £1,200,142.

Model Bungalows.

The Ministry of Health announces that the Housing Commissioner's officials at Birmingham have decided to build for their own use a number of bungalows of most attractive design, which, while conforming to the regulations of the Ministry of Health, and, therefore, eligible for the Government subsidy, possess a number of special and distinctive features. Each house will contain, in addition to a dining-room, a sort of miniature "baronial hall," 16 ft. high with timbered roof, and a small "minstrels'" gallery at one end. Four bedrooms are provided, with storage accommodation in the roof. The kitchen is planned for the comfort and convenience of the servants and a large number of labour-saving devices have been incorporated. Constant hot water for both washing and heating is provided by a slow-combustion boiler, and gas fires are fitted in most of the rooms, the fumes being carried off by flues concealed in the wall-cavities and ending in special ventilators under the eaves. The total cost of erection in rough-cast brick and breeze blocks, including connection of gas, water and drainage, is £940, plus the Government subsidy.

HOUSING AND TOWN-PLANNING NOTES.

The Shortage of Skilled Labour.

At the last meeting of the Ashby-de-la-Zouch Urban District Council it was stated that only one bricklayer was at work on the Council's housing scheme, consisting of 60 houses, and that no more bricklayers could be obtained.

Swanpool Garden City.

It is reported that the Swanpool garden city scheme, near Lincoln, is to be wound up owing to lack of funds. The work of building was begun in April, 1919, and 115 houses have been erected.

Housing Department, Ministry of Health.

Consequent upon the retirement of Sir James Carmichael (announced in our last issue), the Housing Division of the Ministry has been reorganised and placed under the charge of Mr. E. R. Forber, C.B.E., an Assistant Secretary of the Ministry. Mr. Forber will be assisted by Mr. R. B. Cross, O.B.E., Assistant Secretary in charge of the Administrative Branches; Mr. Walker Smith, Director of Housing; and Mr. Stephen Easten, Director of Production. The work in connection with town-planning and unhealthy areas will be under a separate assistant secretary, namely, Mr. I. G. Gibbon, C.B.E., who will also continue temporarily to be in charge of the special branch which deals with housing in London.

The Cost of House Building.

In view of the fact that 140,000 tenders for building houses have now been finally approved, and that in most districts active house building should be in progress so far as the supplies of labour will allow, the Minister of Health is issuing instructions to the Housing Commissioners with regard to the continuous rise in the cost of houses. While the average of the tenders received by local authorities has been progressively rising since the beginning of the year, there is a wide variation between the amounts of the tenders received in different parts of the country, and the Minister is convinced that the high tenders now being received by many local authorities are not justified by the facts. In future, therefore, in such cases, unless it is evident that a tender can readily be brought within a reasonable figure, the local authority will be warned by the Commissioners to reject it without further delay and to prepare alternative proposals which will reduce the cost to reasonable limits.

Labour for Housing.

The Ministry of Health states that at the end of July, 57 per cent. of the skilled labour required for housing schemes was available. The number of men employed was 18,917, and the number needed 33,380, leaving a deficiency of 14,463. This deficiency was made up as follows:—8,160 bricklayers, 3,536 carpenters, 623 slaters and tilers, 1,061 plasterers, 547 plumbers and 536 painters and glaziers.

WEEKLY HOUSING RETURN.

Progress of housing schemes up to August 14:—Schemes submitted, 10,935; schemes approved, 7,619. Lay-out schemes submitted, 5,632; approved, 4,980. House-plans submitted, 249,489; approved, 233,533. Tenders submitted, 157,973 houses; approved, 138,699 houses. Contracts have been signed for 84,392 houses.

Schemes dealt with during week ended August 14:—Schemes submitted, 61. Lay-outs submitted, 58; approved, 52. House plans submitted, 1,923; approved, 2,581. Tenders submitted, 3,736; approved, 1,546. These schemes included the following:—

Applications.

SITES.

URBAN.—Bolton-upon-Dearne, 23.8; Harrington, 30.92.

LAY-OUTS.

URBAN.—Bedford, Bingley, Darlaston, Farnborough, Middleton, Slaithwaite, Whitwood, Whitworth.

RURAL.—Ampthill, Beverley, Blore Heath, Blything, Bourne, Crick, Drayton, East Ashford, Eaton Bray, Foleshill, Fylde, Glendale, Hailsham, Hastings, Melbourn, Nantwich, New Forest, St. Neot's, Sevenoaks, Thirsk, Uffington, Wangford, Wellingborough, Wycombe. COUNTY COUNCIL.—Lancashire.

HOUSE-PLANS.

URBAN.—Aberavon, 19 houses; Bedford, 410; Bingley, 2; Cardiff, 250; Darlaston, 10; E. Cowes, 84; Epsom, 61; Farnborough, 12; Hale, 60; Hornsea, 8; Knottingley, 26; Leyland, 29; Melton Mowbray, 32; Middleton, 46; Nottingham, 22; Presteign, 12; Prudhoe, 80; Redditch, 44; Slaithwaite, 48; Whitwood, 42; Wood Green, 224.

RURAL.—Ampthill, 10 houses; Ashwell, 14; Beverley, 4; Blything, 16; Carmarthen, 6; Drayton, 10; E. Ashford, 12; Foleshill, 27; Glendale, 16; Hastings, 10; Melbourn, 14; Newbury, 6; New Forest, 30; Plomesgate, 2; Pocklington, 16; St. Ives, 2; St. Neots, 4; Sevenoaks, 22; Thirsk, 3; Wangford, 2; Wellingborough, 22; Wing, 6; Wokingham, 2. COUNTY COUNCIL.—Lancashire, 2.

Approvals.

SITES.

URBAN.—Bacup, 20.18 acres; Coventry, 28.9; Haydock, 15.65; Shildon, 12.52; Sutton-in-Ashfield, 18.01; Wallasey, 12.55.

RURAL.—Tadcaster, 25 acres.

LAY-OUTS.

URBAN.—Bedford, Bolton-upon-Dearne, Brecknock, Chiswick, Darlaston, E. Cowes, Hackney, Lampeter, Middleton, Nottingham, Southwick-on-Wear, Tarporley, Thurlstone.

RURAL.—Alton, Ampthill, Barnet, Blore Heath, Blything, Cockermouth, Crick, Drayton, Eaton Bray, Epping, Foleshill, Great Ouseburn, Llanrwst, Macclesfield, Melbourn, New Forest, St. Neots, South Shields, Wangford, Wycombe. COUNTY COUNCILS.—E. Sussex, Lancashire.

HOUSE-PLANS.

URBAN.—Acton, 2 houses; Bedford, 410; Bolton-upon-Dearne, 2; Cardiff, 250; Chiswick, 18; Chorley, 242; Darlaston, 10; E. Cowes, 84; Hackney, 10; Hornsea, 8; Kingston-on-Thames, 20; Knottingley, 26; Letchworth, 9; Llanelly, 32; Melton Mowbray, 32; Middleton, 80; Nottingham, 22; Penarth, 195; Prudhoe, 80; Redditch, 44; Southwick-on-Wear, 28; Thurlstone, 16; Tickhill, 42; Whitwood, 42; Wood Green, 450.

RURAL.—Ampthill, 14 houses; Barnet, 20; Blything, 16; Cockermouth, 20; Cowbridge, 8; Crick, 2; Drayton, 10; Eaton Bray, 4; Epping, 20; Foleshill, 27; Hambledon, 6; Long Crendon, 4; Melbourn, 14; New Forest, 30; Pembroke, 2; Plomesgate, 2; St. Ives, 2; St. Neots, 4; Sedgefield, 48; Wangford, 2; Wycombe, 12. COUNTY COUNCILS.—E. Sussex, 2; Lancashire, 14.

Tenders Approved.

URBAN.—Barnet, 8 houses; Bedford, 410; Cardiff, 250; Egham, 40; Ely, 20; Felling, 20; Godmanchester, 12; Guildford, 12; Hampton, 82; Haslemere, 2; Letchworth, 9; Llandovery, 80; Llanelly, 32; Macclesfield, 24; Melton Mowbray, 32; Milford Haven, 50; Nottingham, 22; Paignton, 4; Welshpool, 60.

RURAL.—Amersham, 28 houses; Atherstone, 12; Castle Ward, 164; Chipping Sodbury, 6; Crick, 2; Docking, 10; Dunmow, 12; Foleshill, 27; Godstone, 4; Gower, 28; Hallaton, 6; Hollingbourne, 2; Melbourn, 22; Romford, 16; Rugby, 12; Smallburgh, 6; Tendring, 80.

THE REPAIR OF OLD COTTAGES.

THE following is an abstract of a paper on the renovation and remodelling of cottages in country districts, read by MISS A. CHURTON (Secretary Rural Housing and Sanitation Association) before the Engineering and Architecture Section of the Royal Sanitary Institute at the recent Congress at Birmingham:—

While the building of new cottages was of first importance, she said, the preserving of old ones was of scarcely less moment, since every cottage so preserved might really be reckoned as an addition to the national housing accommodation. Another point was that all kinds of tenants had to be provided for in country villages—people of varying occupations, means, outlook and requirements. What would suit one would not suit another. Those who would gladly occupy the old-fashioned cottage made healthy and habitable would not be the same as those who were anxious to occupy, and it was to be hoped would be prepared to pay the higher rents for, the new cottages to be provided under the Government scheme. The larger rooms to be found in some of the old cottages, the spacious "back place" and outhouses, the old-established gardens set with fruit trees, more than counterbalanced the lack of the new up-to-date conveniences. If these old cottages could be remodelled and the most essential of the conveniences added, there was no doubt that their occupants would be more than content to keep them as their homes. Although renovation and remodelling would undoubtedly be costly, probably in no case would it be so costly as the building of a new cottage. If a cottage was worth saving at all, a part at least of the building was already there before the renovation began, so that the renovator had a good start of the builder who had to begin from the beginning. There would be less initial preparation of the site, less material to supply, fewer loads to transport; thus the three main factors of cost—labour, material and transport—would all be less.

Among the old cottages, a certain number, although capable of being made reasonably habitable, would not lend themselves to such renovation as would make them suitable homes for families. Such houses, if properly repaired, could be occupied by old people, childless couples, widows and spinsters; their renovation would be a much simpler matter than that required for a family dwelling, involving sometimes, besides general repairs, only the addition of a scullery and larder. Generally speaking, the most usual improvements needed were the addition of a third bedroom, proper provision for food storage, the remedying of dampness, improvement of ventilation and lighting, better facilities for washing and cooking, water supply and sanitary arrangements. The addition of a third bedroom was sometimes possible by carrying up the scullery walls. Through ventilation was a very important point, one of the commonest defects among the older cottages being the lack of doors and windows at the back. In connection with facilities for the family washing, which frequently had to be added when old cottages were renovated, it was important to see that the copper provided, especially if in the scullery or back kitchen, should be of the steam-consuming kind. A proper sanitary convenience for each cottage was another essential which frequently had to be added, as, in the days when most of the older cottages were built, a separate arrangement for each house was not considered necessary.

Every rural and parish council should set to work and make complete lists of houses which were capable of being made habitable, and get a competent architect to say what was needed in each case. Then, if the owner would not or could not do the work, the council should take over the cottages and do the work itself.

DISCUSSION.

Following the reading of the paper, Mr. Searles Wood, F.R.I.B.A., read a communication from MR. HALSEY RICARDO, in which he urged that old cottages should be preserved as records of the past. With regard to their repair, he said it was not a wholesome state of affairs that this should be done with a view to carrying out the work at the minimum of expense; rather should it be left to the local workmen, who would follow old tradition and take an interest in the work.

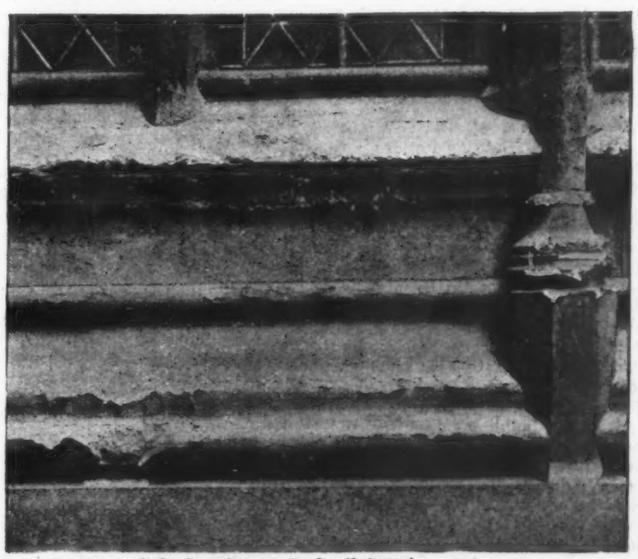
MR. WATKINS (Hartlepool) said that property owners required to know where they stood with regard to the future before they could afford to undertake extensive repairs. He suggested that if the rents of cottages in rural and semi-rural areas could be increased by 10 per cent. per annum for the next seven years owners would know their position and be able to get on with the work. The 25 per cent. at present permitted to be added to the rents of rural cottages was absolutely ridiculous; on cottages let at 3s. or 4s. per week it amounted to about 30s. per annum and did not allow of any repairs being done.

MISS CHURTON, replying to the discussion, said that since the Government had taken up the housing question her Association had had more work than ever, because it had not only to supplement but also to correct Government methods. A settled policy with regard to rents was essential if repair work was to be carried out, as at present cottage owners were holding their hands because they did not know what the next few years might bring forth.

THE TOWER OF LONDON.

THE Report for the year 1919 of the National Physical Laboratory (London: H.M. Stationery Office, price 5s. net), besides a mass of information on the results of researches in various branches of engineering and science, contains an interesting account of investigations carried out to test the stability of the buildings of the Tower of London. Cracks in the masonry of the Tower buildings at nine selected stations have been under observation since September, 1915, and measurements were made at fortnightly intervals until September, 1918. Of the nine stations under observation, definite evidence of a progressive movement of the masonry with time was found at three only. Of these, the movement at the Salt Tower, which amounted to an opening of the crack of six-hundredths of an inch in three years, was considerably greater than those of the other two which were of the order of one-hundredth of an inch. Of the remaining six stations the evidence from the records of two shows unmistakably that the movement of the masonry which has been measured is due to the seasonal variation of temperature of the walls, which, in both cases, were directly exposed to the weather. Observations on a crack situated at a crown of the Wakefield Tower arch show that in each year the maximum opening of the crack occurs in March and the minimum in September. A further point of interest is that the movement is almost entirely confined to the opening of the crack, the other movements in directions at right angles being comparatively negligible. From the fact that the arch is equally exposed to the weather on each side it is clear that this is what would be expected; any general change of mean temperature would simply tend to change the radius of curvature of the arch and consequently to open or close the crack.

The measurement of the rates of growth of the cracks of the masonry described above does not, of course, preclude the possibility of a sliding of the whole mass of the buildings, or parts of them, over the clay stratum on which they rest, and it was thought advisable to attempt to discover if any movement of this kind was in progress. From the results of boreholes at different stations on the site the approximate positions of the geological formations and "made ground" under the Tower buildings were determined. It was observed that the depth of blue clay below the bottom surface of the ditch at the back of the quay wall adjacent to the Wakefield Tower arch was only 8 feet, and it was considered that if a masonry pier whose foundations were carried down to, and supported only by, the blue clay was constructed at this site, a datum would be obtained from which the movement of the whole of that part of the quay wall in its vicinity could be measured. A proposal for the construction of such a pier, provided with the necessary micrometer attachments, was submitted to and approved by Sir Frank Baines, and by his instructions the pier was constructed by the Office of Works staff. This was completed in August, 1919, and some preliminary observations of the movement of the quay wall have been made. It is found that the horizontal movement with the rise and fall of the tide in the river is considerable, the average amount being about one millimetre each way. Observations will be made at regular intervals during the coming year to determine the extent of the permanent movement, if any.



From the *Report of the Committee on Smoke Abatement.*

Deterioration of Stone at the Houses of Parliament.

[This photograph shows the exfoliation of decay of a Caen stone plinth at the Cloisters of the Houses of Parliament. The Committee on Smoke Abatement was informed by a representative of H.M. Office of Works that the cost of the upkeep of public monuments and buildings would be reduced by one-half if a pure and smoke-free atmosphere could be attained.]

THE BUILDING TRADE.

THE INDUSTRIAL POSITION.

SIGNS are not wanting that the period of apparent trade prosperity which followed upon the conclusion of actual hostilities is coming to an end, and that the nation will have to brace itself to meet a time of commercial depression. This was inevitable from the nature of things, even had the nation set itself soberly with great self-restraint to reconstruct its crippled industries. The apparent prosperity could only be a flash in the pan whilst the immediate pressing needs of the nations were being supplied to make good the wastage of war and the arrears accumulated during the war were to some extent being overtaken, but lasting commercial prosperity can only be founded upon economic principles. A regard for all such principles has been conspicuous by its absence, and the nation must suffer for it. Wages are not based on what the industries can stand but are settled at demand; credit is not fostered and, as during the war, the nation is living on capital.

Is there any indication that wiser counsels will prevail? We fear not; we are threatened with a coal strike, not confined even to a question of wages, which if it takes place will set the whole country back and make the winter as trying as any in the war. The trade unions are allowing political considerations to usurp their industrial functions, and all classes are indulging in an optimistic extravagance.

A period of trade depression may open our eyes to what is our real position, but then the evil will have been created and mutual recrimination will not remedy it. It is not too late even now for an attempt to be made to set our house in order and to endeavour to establish trade on real industrial principles; every effort now made will shorten the time of depression before us, and we hope the eyes of the nation will be opened in time.

Strikes will not rebuild a nation, and threats of strikes against chimerical wars and rumours of war can only injure our own credit and damage our own trade. The spectre of unemployment is now visible, and it will assume a concrete form unless every class in the country combines practically to combat the spirit of discontent and restlessness engendered by the war. We have great opportunities but, like the dog in the fable, whilst holding the solid bone in our teeth we are looking down into the water beneath and hesitating whether we shall not drop our prize into depths which have a mirrored surface but contain nothing solid.

Building Trade Operatives' Federation.

The annual conference of the National Federation of Building Trade Operatives was held at Scarborough on Friday and Saturday last week, under the presidency of Mr. George Hicks. In a review of the past year Mr. Hicks said that the greatest achievement was the institution of the 44-hour week. Referring to the proposals for the re-introduction of piecework and payment by results, he said they "had fought and would continue to fight everyone who tries to re-impose such things in our industry." The Government, he said, had utterly failed to demonstrate the need for dilution in the industry, and the operatives had been able to point to the number of men engaged on "luxury" building; they insisted that such work must be suspended and a proper proportionate transfer of labour take place to housing work.—No decision was reached by the conference on the questions of payment by results and dilution, and the conference was adjourned until August 31 in the hope that the new Government proposals and the counter-proposals submitted by the Federation would then be available. Mr. George Hicks was re-elected President of the Federation for the ensuing year, and Mr. Gould, of the Amalgamated Society of Carpenters and Joiners, was elected Vice-president.

FLAT SLAB CONSTRUCTION.

IN order to eliminate waste of material often rendered necessary by building codes of too conservative a nature, the New York Municipality has adopted new regulations governing the design and construction of flat slab reinforced concrete construction. It is stated that the economy made possible by these new regulations have resulted in a saving of 35,000 dollars on a building being erected in Manhattan, compared with the requirements previously in force in that borough. The new rules, which we take from the *American Architect*, are as follows:—

RULE 1. APPLICATION.—The rules governing the design of reinforced concrete flat slabs shall apply to such floors and roofs, consisting of three or more rows of slabs, without beams or girders, supported on columns, the construction being continuous over the columns and forming with them a monolithic structure.

RULE 2. COMPLIANCE WITH BUILDING CODE.—In the design of reinforced concrete flat slabs, the provisions of article 16 of the building code shall govern with respect to such matters as are specified therein.

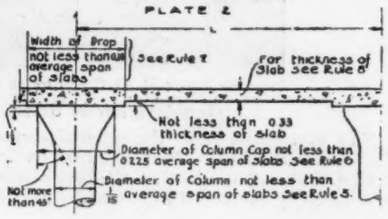
RULE 3. ASSUMPTIONS.—In calculations for the strength of reinforced concrete flat slabs, the following assumptions shall be made: (*a*) A plane section before bending remains plane after bending; (*b*) the modulus of elasticity of concrete in compression within the allowable working stresses is constant; (*c*) the adhesion between concrete and reinforcement is perfect; (*d*) the tensile strength of concrete is nil; (*e*) initial stress in the reinforcement due to contraction or expansion in the concrete is negligible.

RULE 4. STRESSES.—(*a*) The allowable unit shear in reinforced concrete flat slabs on *bd* section around the perimeter of the column capital shall not exceed 120 lbs. per sq. in.; and the allowable unit shearing stress on the *bjd* section around the perimeter of the drop shall not exceed 60 lbs. per sq. in., provided that the reinforcement is so arranged or anchored that the stress may be fully developed for both positive and negative moments; (*b*) the extreme fibre stress to be used in concrete in compression at the column head section shall not exceed 750 lbs. per sq. in.

RULE 5. COLUMNS.—For columns supporting reinforced concrete flat slabs, the least dimension of any column shall be not less than one-fifteenth of the average span of any slabs supported by the columns; but in no case shall such least dimension of any interior column supporting a floor or roof be less than 16 in., when round, nor 14 in. when square; nor shall the least dimension of any exterior column be less than 14 in.

RULE 6. COLUMN CAPITAL.—Every reinforced concrete column supporting a flat slab shall be provided with a capital whose diameter is not less than 0.225 of the average span of any slabs supported by it. Such diameter shall be measured where the vertical thickness of the capital is at least 1½ in., and shall be the diameter of the inscribed circle in that horizontal plane. The slope of the capital considered effective below the point where its diameter is measured shall nowhere make an angle with the vertical of more than 45 deg. In case a cap of less dimensions than hereinafter described as a drop is placed above the column capital, the part of this cap enclosed within the lines of the column capital extended upward to the bottom of the slab or drop at the slope of 45 deg. may be considered as part of the column capital in determining the diameter for design purposes.

PLATE 2


Width of Drop not less than ⅛ average span of slabs
See Rule 7
For thickness of Slab see Rule 8
Not less than 0.33 thickness of slab
Diameter of Column Cap not less than 0.225 average span of slabs See Rule 6
Not more than 45°
Diameter of Column not less than ⅛ average span of slabs See Rule 5.

RULE 7. DROP.—When a reinforced concrete flat slab is thicker in that portion adjacent to or surrounding the column, the thickened portion shall be known as a drop. The width of such drop, when used, shall be determined by the shearing stress in the slab around the perimeter of the drop, but in no case shall the width be less than 0.33 of the average span of any slabs of which it forms a part. In computing the thickness of drop required by the negative moment on the column head section, the width of the drop only shall be considered as effective in resisting the compressive stress, but in no case shall the thickness of such drops be less than 0.33 of the thickness of the slab. Where drops are used over interior columns, corresponding drops shall be employed over exterior columns and shall extend to the sixth point of the panel from the centre of the column.

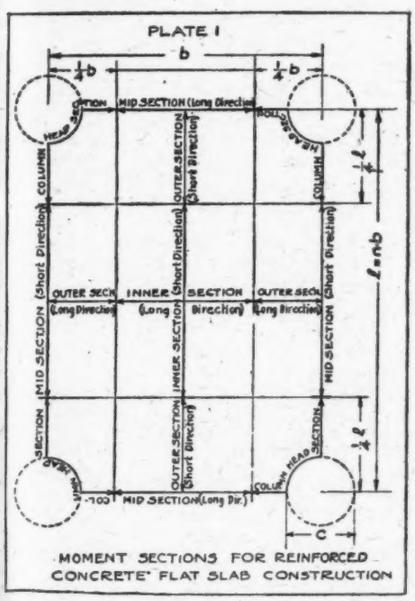
RULE 8. SLAB THICKNESS.—The thickness of a reinforced concrete flat slab shall be not less than that derived by the formulæ $t = 0.024 \frac{L\ V\ \overline{w}}{} + 1\frac{1}{2}$ for slabs without drops, and $t = 0.02\ L\ V\ w + 1$ for slabs with drops, in which t is the thickness of the slab in inches, L is the average span of the slab in feet, and w is the total live and dead load in lbs. per sq. ft.; but in no case shall this thickness be less than one-thirty-second of the average span of the slab for floors, nor less than one-fortieth of the average span of the slab for roofs, nor less than 6 in. for floors nor less than 5 in. for roofs.

RULE 9. REINFORCEMENT.—(*a*) In the calculation of moments at any section, all the reinforcing bars which cross that section may be used, provided that such bars extend far enough on each side of such section to develop the full amount of the stress at that section. The effective area of the reinforcement at any moment section shall be the sectional area of the bars crossing such section multiplied by the sine of the angle of such bars with the plane of the section. The distribution of the reinforcement of the several bands shall be arranged to fully provide for the intermediate moments at any sections. (*b*) Splices in bars may be made wherever convenient but preferably at points of minimum stress. The length of any splice shall be not less than 80 bar diameters, and in no case less than 2 ft. The splicing of adjacent bars shall be avoided as far as possible. Slab bars which are lapped over the column, the sectional area of both being included in the calculation for negative moment, shall extend to the lines of inflection beyond the column centre. (*c*) When the reinforcement is arranged in bands, at least 50 per cent. of the bars in any band shall be of a length not less than the distance centre to centre of columns measured rectangularly and diagonally; no bars used as positive reinforcement shall be of a length less than half the panel length plus 40 bar diameter for cross bands, or less than seven-tenths of the panel length plus 40 bar diameters for diagonal bands and no bars used as negative reinforcement shall be of a length less than half the panel length. All reinforcement framing perpendicular to the wall in exterior panels shall extend to the outer edge of the panel and shall be hooked or otherwise anchored. (*d*) Adequate means shall be provided for properly maintaining all slab reinforcement in the position assumed by the computations.

RULE 10. LINE OF INFLECTION.—In the design of reinforced concrete flat slab construction, for the purpose of making calculations of the bending moments at sections other than defined in these rules, the line of inflection shall be considered as being located one quarter the distance, centre to centre, of columns, rectan-

gularly and diagonally, from centre of columns for panels without drops, and three-tenths of such distance for panels with drops.

RULE 11. MOMENT SECTIONS.—For the purpose of design of reinforced concrete flat slabs, that portion of the section across a panel, along a line midway between columns, which lies within the middle two quarters of the width of the panel, shall be known as the inner section, and those portions of the section in the two outer quarters of the width of the panel shall be known as the outer sections. Of the section which follows a panel edge from column to column and which includes the quarter perimeters of the edges of the column capitals, that portion within the middle two quarters of the panel width shall be known as the mid section and the two remaining portions, each having a projected width equal to one-quarter of the panel width, shall be known as the column head sections.



MOMENT SECTIONS FOR REINFORCED CONCRETE FLAT SLAB CONSTRUCTION

RULE 12. BENDING MOMENTS.—In the design of reinforced concrete flat slabs the following provisions with respect to bending moments shall be observed. In the moment expressions used: W is the total dead and live load on the panel under consideration, including the weight of drop whether a square, rectangle or parallelogram; W1 is the total live load on the panel under consideration; L is the length of side of a square panel centre to centre of columns; on the average span of a rectangular panel which is the mean length of the two sides, n is the ratio of the greater to the less dimension of the panel; h is the unsupported length of a column in inches, measured from top of slab to base of capital; I is the moment of inertia of the reinforced concrete column section.

A. INTERIOR SQUARE PANELS.—The numerical sum of the positive and negative moments shall be not less than 1/17 W L. A variation of plus or minus 5 per cent. shall be permitted in the expression for the moment on any section, but in no case shall the sum of the negative moments be less than 66 per cent. of the total moment, nor the sum of the positive moments be less than 34 per cent. of the total moment for slabs with drops; nor shall the sum of the negative moments be less than 60 per cent. of the total moment, nor the sum of the positive moments be less than 40 per cent. of the total moment for slabs without drops.

(1).—In two-way systems, for slabs with drops, the negative moment resisted on two column head sections shall be —1/32 W L; the negative moment on the mid section shall be —1/133 W L; the positive moment on the two outer sections shall be +1/80 W L and the positive moment on the inner section shall be +1/133 W L, and for slabs without drops the negative moment resisted on two column head sections will be —1/36 W L, the negative moment on the mid section shall be —1/133 W L, the positive moment on the two outer sections shall be +1/63 W L and the positive moment on the inner section shall be +1/133 W L.

(2).—In four-way systems the negative moments shall be as specified for two-way systems; the positive moment on the two outer sections shall be +1/100 W L, and the positive moment on the inner section shall be +1/100 W L for slabs with drops; and the positive moment on the two outer sections shall be +1/74 W L, and the positive moment on the inner section shall be +1/100 W L, for slabs without drops.

(3).—In three-way systems the negative moment on the column head and mid sections and the positive moment on the two outer sections, shall be as specified for four-way systems. In the expression for the bending moments on the various sections, the length L shall be assumed as the distance centre to centre of columns, and the load W as the load on the parallelogram panel.

B. INTERIOR RECTANGULAR PANELS.—When the ratio n does not exceed 1.1, all computations shall be based on a square panel of a length equal to the average span, and the reinforcement shall be equally distributed in the short and long directions according to the bending moment co-efficients for interior square panels. When the ratio n lies between 1.1 and 1.33 the bending moment co-efficients specified for interior square panels shall be applied in the following specified manner:—

(1).—In two-way systems the negative moments on the two column head sections and the mid section and the positive moment on the two outer sections and the inner section at right angles to the long direction shall be determined as for a square panel of a length equal to the greater dimension of the rectangular panel; and the corresponding moments on the sections at right angles to the short direction shall be determined as for a square panel of a length equal to the lesser dimension of the rectangular panel. In no case shall the amount of reinforcement in the short direction be less than two-thirds that in the long direction. The load W shall be taken as the load on the rectangular panel under consideration.

(2).—In four-way systems, for the rectangular bands, the negative moment on the column head sections and the positive moment on the outer sections shall be determined in the same manner as indicated for two-way systems. For the diagonal bands, the negative moments on the column head and mid sections and the positive moment on the inner section shall be determined as for a square panel of a length equal to the average span of the rectangle. The load W shall be taken as the load on the rectangular panel under consideration.

(3).—In three-way systems the negative and positive moments on the bands running parallel to the long direction shall be determined as for a square whose side is equal to the greater dimension; and the moments on the bands running parallel to the short direction shall be determined as for a square whose side is equal to the lesser dimension. The load W shall be taken as the load on the parallelogram panel under consideration.

C. EXTERIOR PANELS.—The negative moments at the first interior row of columns and the positive moments at the centre of the exterior panels on moment sections parallel to the wall, shall be increased 20 per cent. over those specified above for interior panels. The negative moment on moment sections at the wall and parallel thereto shall be determined by the conditions of restraint, but the negative moment on the mid section shall never be considered less than 50 per cent. and the negative moment on the column head section never less than 80 per cent. of the corresponding moments at the first interior row of columns.

D. INTERIOR COLUMNS shall be designed for the bending moments developed by unequally loaded panels, eccentric loading or uneven spacing of columns. The bending moment resulting from unequally loaded panels shall be considered as 1/40 W1 L, and shall be resisted by the columns immediately above and below the floor line under consideration in direct proportion to the values of their ratios of I/h.

E. WALL COLUMNS shall be designed to resist bending in the same manner as interior columns, except that W shall be substituted for W1 in the formula for the moment. The moment so computed may be reduced by the counter moment of the weight of the structure which projects beyond the centre line of the wall columns.

F. ROOF COLUMNS shall be designed to resist the total moment resulting from unequally loaded panels, as expressed by the formulæ in paragraphs (D) and (E) of this rule.

RULE 13. WALLS AND OPENINGS.—In the design and construction of reinforced concrete flat slabs, additional slab thickness, girders or beams shall be provided to carry any walls or concentrated loads in addition to the specified uniform live and dead loads. Such girders or beams shall be assumed to carry 20 per cent. of the total live and dead panel load in addition to the wall load. Beams shall also be provided in case openings in the floor reduce the working strength of the slab below the prescribed carrying capacity.

RULE 14. SPECIAL PANELS.—For structures having a width of less than 3 rows of slabs, or in which exterior drops, capitals or columns are omitted, or in which irregular or special panels are used, and for which the rules relating to the design of reinforced flat slabs do not directly apply, the computations in the analysis of the design of such panels, shall, when so required, be filed with the superintendent of buildings.

EXCAVATING BY MACHINERY

THE possibilities of steam navvies in the excavation of foundations, &c., and the loading of materials were exhaustively dealt with by Messrs. F. H. Livens & W. Barnes in a paper read at the Lincoln meeting of the Institution of Mechanical Engineers in July.

With regard to the size of machine suitable for work in various workings, the authors gave the following figures:—For working in clay up to medium hardness, 4 to 6 ton machines; for stiff clay, 8 to 10 ton machines; for boulder clay, 12 to 20 ton machines; for heavier material such as limestone and heavy iron ore, 20 to 30 ton machines. The output depends also upon the size of the bucket, which again is governed by the nature of the material to be excavated; thus, a machine having 6 tons cutting effort is most efficient when fitted with a bucket of from ¾ to 1 cubic yd. capacity; if 12 tons, then the bucket should hold from 1½ to 2 cubic yds.; and if 20 tons, from 2½ to 3½ cubic yds., to give approximate examples.

With a type of machine frequently used, with a cutting effort of 20 tons and a bucket of 2½ to 3½ cubic yds. capacity, the cycle of operations takes from 25 to 35 seconds. These machines are capable of dealing with from 120 to 150 cubic yards of ordinary soil or light clay per hour; 100 to 120 cubic yards of stiff clay per hour; 60 to 100 cubic yards of ironstone per hour; or 60 to 80 cubic yards of loose limestone per hour. The cost of excavating and loading into wagons works out at about 15s. 6d. per hour, or approximately 1½d. per cubic yd. for a maximum output of easy working material, and 3d. per cubic yd. for heavy material.

Before the war comparatively few excavators of less than 8 tons cutting capacity were in operation, but present-day labour costs have rendered a smaller machine an economical proposition. To meet the needs of the small job, machines of 16 tons weight, with a bucket of ¾ cubic yd. capacity, and five tons cutting effort are now obtainable. This type of excavator will deal with any class of material up to fairly stiff clay at the rate of 50 cubic yds. per hour. When working at the maximum output, two men on the machine and two or three around can usefully be employed, but for small outputs one man on the machine and one or two around are sufficient.

BOOKS.

The Industrial Clinic. Edited by DR. EDGAR L. COLLIS. London: John Bale, Ltd. 1920. Price 10s. 6d. net.

The health of the worker has now become such a recognised factor in our scheme of national well-being that works on this subject under the direction of the medical profession should be welcome. The design of this book is to bring home the need for what is called "industrial medicine," and to place in the hands of factory medical officers and welfare workers some account of the field of effort in front of them. The chapters on various subjects are written by different authorities, which, though in some measure destroying continuity, at least should give highly specialised knowledge. Beginning with the medical examination of the worker and his health and physique, the choice of the worker and the basis of selection is next considered, followed by questions of industrial fatigue and efficiency. The hygiene of working conditions includes notes on ventilation, lighting, and heating, with reference to the special needs of specific industries. These are matters with which those responsible for the design of factories should be acquainted. Bad ventilation means poor output and bad lighting means, in addition, accidents, dirt, lack of discipline, and impaired eye-sight.

Reminiscences of a Municipal Engineer. By H. PERCY BOULNOIS, M.Inst.C.E. London: St. Bride's Press, Ltd. Price 7s. 6d. net.

In writing his own life, the author of this book gives to the public some conception of the work which devolves on a municipal engineer, and shows that such an official can take an interest in literature and other subjects outside the scope of his daily duties. The author is to be congratulated on these reminiscences, which are both interesting and amusing and well worth issuing in book form.

A Manual of the Timbers of the World: their Characteristics and Uses. By ALEXANDER L. HOWARD. London: Macmillan & Co., Ltd. Price 30s. net.

This is a comprehensive handbook containing information concerning all the timbers encountered in commerce, including those which have only of recent years appeared in the European market. The subject is treated from its commercial, technical and industrial aspects, to which is appended a valuable account by Mr. S. Fitzgerald of the artificial seasoning of timber. The work contains upwards of 100 illustrations and is admirably produced.

Furniture for Small Houses. By PERCY A. WELLS. London: B. T. Batsford, Ltd. Price 12s. 6d.

We do not forget the interesting exhibition of the Shoreditch Technical Institute, at which a commendable simplicity of design found expression in well-made examples of inexpensive cottage furniture, arranged by Mr. Percy A. Wells, the head of the Cabinet Department at the L.C.C. Technical Institute, Shoreditch. It is astonishing what the avoidance of fussiness and vulgarity will do in the matter of design, and in this respect the exhibition was a useful object-lesson. Some of the results of these translated into book form by means of photographs and line drawings which Mr. Percy A. Wells has brought together, are now before us. We could sincerely wish that all cheap furniture was no worse than the examples in the book, which are put together in a workmanlike way. But it must be confessed it all looks very hard and stiff, and though it may be virtuous it is distinctly dull. Even in very simple work like this we should hope to see some quaintness of detail or some distinction of form and proportion. There is a touch of feeling we look for even in the most economical and restrained design, and such men as Ashbee, Morris and Gimson have given it us. Well-designed mouldings are not expensive, and often add a valuable note of emphasis, while the exact proportions of height, width and length which make for quality are not impossible to provide.

RATES OF WAGES IN THE BUILDING TRADE.

THE following are the present rates of wages in the building trade in the principal towns of England and Wales. It must be understood that, while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Masons' Labourers.	Bricklayers' Labourers.	Plasterers' Labourers.
Aberdare	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Accrington	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½		1/10½–1/11	
Altrincham	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/0–2/0½	
Ashton-under-Lyne	2/4	2/4	2/4	2/4	2/4	2/5	2/4		2/0–2/0½	
Barnsley	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½		1/11½	
Barrow-in-Furness	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/0–2/0½	
Barry	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Bath	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/7½	1/7½	1/7½
Bedford	1/11	1/11	1/11	1/11	1/11	1/11	1/11		1/8	
Birkenhead	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/0½	
Birmingham	2/4	2/4	2/4	2/4	2/4	2/5	2/4		2/1	
Bishop Auckland	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Blackburn	2/2½	2/2½	2/2½	2/2½	2/2½	2/2	2/2½		1/10½–1/11	
Blackpool	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½		1/10½–1/11	
Bolton	2/4	2/4	2/4	2/4	2/4	2/3	2/4		2/0–2/0½	
Bournemouth	2/-	2/-	2/-	2/-	2/-	2/-	2/-		1/9	
Bradford	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Bridgwater	1/9	1/9	1/9	1/9	1/9	1/9	1/9	1/6	1/6	1/6
Brighton	2/-	2/-	2/-	2/-	2/-	2/-	2/-		1/9	
Bristol	2/-	2/-	2/-	2/-	2/-	2/-	2/-		1/9	
Burnley	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½		1/10½–1/11	
Burton-on-Trent	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½		1/11½	
Bury	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/0–2/0½	
Cambridge	1/11	1/11	1/11	1/11	1/11	1/11	1/11		1/8	
Cardiff	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Chatham	1/11	1/11	1/11	1/11	1/11	1/11	1/11		1/8	
Chelmsford	1/11	1/11	1/11	1/11	1/11	1/11	1/11		1/8	
Cheltenham	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/7½	1/7½	1/7½
Chester	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½		1/10½–1/11	
Chesterfield	2/4	2/4	2/4	2/4	2/4	2/-	2/4		2/1	
Colchester	1/11	1/11	1/11	1/11	1/11	1/11	1/11		1/8	
Coventry	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Crewe	2/-	2/-	2/-	2/-	2/-	2/-	2/-		1/8–1/8½	
Darlington	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Derby	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Doncaster	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½		1/11½	
Dudley	2/2½	2/2½	2/2½	2/2½	2/2½	1/10½	2/2½		1/11½	
Durham	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
East Glam. and Mon. Valleys	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Exeter	1/9	1/9	1/9	1/9	1/9	1/9	1/8	1/6	1/6	1/6
Folkestone	1/11	1/11	1/11	1/11	1/11	1/11	1/11		1/8	
Gloucester	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/9½	1/7½	1/7½	1/7½
Grantham	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½		1/11½	
Grays	2/4	2/4	2/4	2/4	2/4	2/4½	2/3		2/1	
Grimsby	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Great Yarmouth	1/11	1/11	1/11	1/11	1/11	1/11	1/11		1/8	
Guildford	1/11	1/11	1/11	1/11	1/11	1/11	1/11		1/8	
Halifax	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Harrogate	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½		1/11½	
Hartlepools	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Hastings	1/11	1/11	1/11	1/11	1/11	1/11	1/11		1/8	
Hereford	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/9½	1/7½	1/7½	1/7½
Huddersfield	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Hull	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Ipswich	1/11	1/11	1/11	1/11	1/11	1/11	1/11		1/8	
Lancaster	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½		1/10½–1/11	
Leamington Spa	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½		1/11½	
Leeds	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Leicester	2/4	2/4	2/4	2/4	2/4	2/4½	2/4		2/1	
Lichfield	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½		1/11½	
Lincoln	2/4	2/4	2/4	2/4	2/4	2/-	2/4		2/1	
Liverpool	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/0½	
Llanelly	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
London	2/4	2/4	2/4	2/4	—	2/4½	2/3		2/1	
Loughborough	2/4	2/4	2/4	2/4	2/4	2/4½	2/4		2/1	
Luton	2/-	2/-	2/-	2/-	2/-	2/-	2/-		1/9	
Maidstone	1/11	1/11	1/11	1/11	1/11	1/11	1/11		1/8	
Manchester	2/4	2/4	2/4	2/4	2/4	2/3	2/4		2/0–2/0½	
Mansfield	2/2½	2/2½	2/2½	2/2½	2/2½	2/3	2/2½		1/11½	
Merthyr Tydfil	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Middlesbrough	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Newcastle-on-Tyne	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Newport, Mon.	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Northampton	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½		1/11½	
Norwich	1/11	1/11	1/11	1/11	1/11	1/11	1/11		1/8	
Nottingham	2/4	2/4	2/4	2/4	2/4	2/4½	2/4		2/1	
Oldham	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/0–2/0½	
Oxford	2/-	2/-	2/-	2/-	2/-	2/-	2/-		1/9	
Plymouth	2/-	2/-	2/-	2/-	2/-	2/-	1/11	1/9	1/9	1/9
Pontypridd	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Portsmouth	2/-	2/-	2/-	2/-	2/-	2/-	2/-		1/9	
Preston	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½		1/10½–1/11	
Reading	2/-	2/-	2/-	2/-	2/-	2/-	2/-		1/9	
Rochdale	2/4	2/4	2/4	2/4	2/4	2/5	2/4		2/0–2/0½	
Rochester	1/11	1/11	1/11	1/11	1/11	1/11	1/11		1/8	
Rugby	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½		1/11½	
St. Albans	2/-	2/-	2/-	2/-	2/-	2/-	2/-		1/8	
St. Helen's	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/0–2/0½	
Scarborough	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½		1/11½	
Sheffield	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Shrewsbury	2/2½	2/2½	2/2½	2/2½	2/2½	1/10½	2/2½		1/11½	
Southampton	2/-	2/-	2/-	2/-	2/-	2/-	2/-		1/9	
Southend-on-Sea	2/0½	2/0½	2/0½	2/0½	2/0½	2/0½	1/11½		1/9	
Southport	2/4	2/4	2/4	2/4	2/4	2/-	2/4		2/0–2/0½	
South Shields	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Stockport	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/0–2/0½	
Stockton-on-Tees	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Stoke-on-Trent	2/2½	2/2½	2/2½	2/2½	2/2½	1/10½	2/2½		1/11½	
Stroud	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10	1/7½	1/7½	1/7½
Sunderland	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Swansea	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Taunton	1/9	1/9	1/9	1/9	1/9	1/9	1/9	1/6	1/6	1/6
Torquay	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/5	1/5	1/5
Wakefield	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Walsall	2/2½	2/2½	2/2½	2/2½	2/2½	2/3½	2/2½		1/11½	
Warrington	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/0–2/0½	
West Bromwich	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/1	
Wigan	2/4	2/4	2/4	2/4	2/4	2/4	2/4		2/0–2/0½	
Windsor	2/-	2/-	2/-	2/-	2/-	2/-	2/-		1/9	
Wolverhampton	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½		1/10½	
Worcester	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½		1/11½	
York	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½	2/2½		1/11½	

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number. Contracts iv; Competitions iv; Public Appointments lxiv; Sales by Auction lxxviii. Certain conditions beyond those given in the following information are imposed in some cases such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where, quantities, forms of tender, &c., may be obtained.

BUILDING AND PAINTING.

AUGUST 28.—**Great Ayton.**—ADDITIONS.—Additions to the "Edward Kitching" Council School, Great Ayton, for the North Riding of Yorkshire County Council Education Committee. Mr. J. C. Wrigley, Education Offices, Northallerton.

AUGUST 28.—**Amesbury.**—HOUSES.—Erection of 6 houses at Winterbourne Dauntsey, 6 at Idmiston, 4 at Great Dursford, and six each at Orcheston St George and Tilshead, for the R.D.C. Mr. A. M. Wilson, 12, Bridge-street, Salisbury. Deposit £2 2s.

AUGUST 28.—**Hertfordshire.**—COTTAGES.—Erection of police cottages at West Hyde, Pirton, Whippendale-road, Watford, Hertford Bengeo, Hitchin, Ware, Bishop's Stortford, Hertford Heath, Leverstock Green, Sarrett, Sandon, Weston, Northchurch, Walton-at-Stone, Hoddesdon, and Royston, for the C.C. Lieut.-Col. H. E. Prescott, County Surveyor, Hatfield. Deposit £1 1s.

AUGUST 28.—**Hove.**—ALTERATIONS.—Alterations at 12, Goldstone Villas, Hove, for the Hove Day Nursing Committee. Borough Surveyor, Town Hall, Hove.

AUGUST 28.—**Long Eaton.**—HOUSES.—Erection of 22 semi-detached houses, for the U.D.C. Mr. Frank Worrall, architect, Long Eaton.

AUGUST 28.—**Maldon.**—HOUSES.—Erection of 8 pairs of houses in Cherry Garden-road for the T.C. Mr. T. R. Swales, Borough Engineer, Municipal Offices, Maldon.

AUGUST 28.—**Thirsk.**—PAINTING.—Painting the outside of the Institution and buildings of the Board of Guardians. Mr. Ernest R. Walker, architect, 17A, Lendal, York. Deposit £1 1s.

AUGUST 28.—**Wimborne.**—COTTAGES.—Erection of ten pairs of cottages at Leigh, for the U.D.C. Messrs. Fletcher & Brett, The Chantry, Wimborne, Dorset. Deposit £3 3s.

AUGUST 30.—**Bingham.**—HOUSES.—Erection of 30 houses at Keyworth, 24 at Cotgrave and 26 at Bingham, for the R.D.C. Messrs. Sands & Walker, Market Chambers, Milton-street, Nottingham.

AUGUST 30.—**Carlisle.**—ALTERATIONS.—Alterations to Porter's House, for the Board of Guardians. Mr. George Armstrong, architect, 24, Bank-street, Carlisle.

AUGUST 30.—**Carnarvon.**—FACTORY.—Erection of sweet factory and garage, for Mr. E. Nefydd Jones. Mr. L. Lloyd Jones, architect, Lloyd's Bank Chambers, Carnarvon.

AUGUST 30.—**Chorley.**—HOUSES.—Erection of houses at Bretherton (6), Anderton (12), Duxbury (6), Coppull West (64), Charnock Richard (30), Euxton (20), Heskin (8), and Mawdsley (8), for the R.D.C. Mr. J. B. Jolly, 9, High-street, Chorley. Deposit £5.

AUGUST 30.—**Dervock.**—TOWER.—Erection of a tower on Dervock Presbyterian Church. Mr. Samuel Boyd, Knockanboye, Dervock, Ulster.

AUGUST 30.—**Dysart.**—HOUSES.—Erection of 10 houses for the T.C. Mr. J. Gentles, surveyor, 184, High-street, Kirkcaldy. Deposit £1 1s.

AUGUST 30.—**East Dereham.**—HOUSES.—Erection of one pair or more of five pairs of cottages. Specifications can be seen at the office of Mr. J. Skipper, 7, London-street, Norwich.

AUGUST 30.—**Finsbury.**—PAINTING.—Redecoration of the interior and exterior of the Public Library, for the B.C. Mr. H. G. T. Cannons, Borough Librarian, Finsbury Public Library, Skinner-street, Clerkenwell, E.C.

AUGUST 30.—**Girvan.**—HOUSES.—Erection of 20 houses for the T.C. Messrs. Hutton & Taylor, architects, 212, Bath-street, Glasgow. Deposit £1 1s.

AUGUST 30.—**Hebburn.**—HOUSES.—Erection of 241 houses of various types on Plot No. 1 of the Council's housing scheme. Surveyor, Council Offices, Hebburn.

AUGUST 30.—**Lymm.**—FENCE.—Providing and fixing wooden fence, about 232 yards in length, for the U.D.C. Mr. John Cubbon, F.R.I.B.A., 42, John Dalton-street, Manchester.

AUGUST 30.—**Lymm.**—HOUSES.—Erection of 50 houses in pairs upon the Crouchley-lane site, for the U.D.C. Mr. John Cubbon, F.R.I.B.A., 42, John Dalton-street, Manchester. Deposit £1 1s.

AUGUST 30.—**Manchester.**—HOUSES.—Erection of houses on the Fog-lane Estate in any number from four upwards, for the T.C. Director of Housing, Town Hall, Manchester. Deposit £2 2s.

AUGUST 30.—**Sutton-in-Ashfield.**—FOUNDATION, &C.—For brickwork and stonework foundation, &c., at waterworks of the U.D.C. Messrs. G. & F. W. Hodson, Loughborough. Deposit £5 5s.

AUGUST 30.—**Truro.**—HOUSES.—Erection of 8 houses at St. Mawes and 8 at St. Just, for the R.D.C. Mr. A. J. Cornelius, architect, 81, Lennox-street, Truro,

AUGUST 31.—**Alnwick.**—PAINTING.—For painting, &c., at Northumberland Hall, for the U.D.C. Mr. J. T. Robson, surveyor, Alnwick.

*AUGUST 31.—**Barnet.**—HOUSES.—Erection of 33 houses (with road and sewer works) at Underhill. Mr. R. W. Poole, Clerk to the U.D.C., High-street. Deposit £2 2s.

AUGUST 31.—**Braintree.**—HOUSES.—Erection of 50 cottages at Kelvedon, for the R.D.C. Mr. A. R. Dannatt, Lic.R.I.B.A., Great-square, Braintree.

AUGUST 31.—**Gosforth.**—HOUSES.—Erection of 28 semi-detached houses, for the U.D.C. Mr. George Nelson, Surveyor, Council Offices, Gosforth.

AUGUST 31.—**Padstow.**—COTTAGES, &C.—Erection of 25 cottages (roads, drainage, &c., in connection therewith), for the U.D.C. Messrs. Charles Cole and Fred Jerman, 50, High-street, Exeter. Deposit £2 2s.

AUGUST 31.—**Rutherglen.**—HOUSES.—Erection of 52 houses, for the T.C. Mr. Hugh Inglis, Burgh Engineer, Town Hall, Rutherglen.

AUGUST 31.—**Rugby.**—HOUSES.—Erection of 36 houses, for the U.D.C. Mr. J. H. Sharp, surveyor, Benn Buildings, Rugby. Deposit £1.

AUGUST 31.—**Sutton.**—HOUSES.—Erection of 72 houses (divided into four contracts), for the U.D.C. Mr. Larman Luck, M.I.M.E., Municipal Offices, Sutton. Deposit, £2 2s.

AUGUST.—**Amersham.**—HOUSES.—Erection of 24 houses on a site at Gold-hill, Chalfont St. Peter, Bucks. Quantity Surveyors, Messrs. Robinson & Roods, 27, Bedford-row, W.C.1. Deposit £1 1s.

AUGUST.—**New Romney.**—HOUSES.—Erection of 4 cottages. A Jackson, architect and surveyor, 13, North-street, Ashford.

SEPTEMBER 1.—**Herne Bay.**—PAINTING, &C.—Cleaning, painting and repairs at St. Ann's Home, Herne Bay, for the Metropolitan Asylums Board. Mr. T. Cooper, Engineer-in-Chief, Embankment, E.C.4. Deposit £1.

SEPTEMBER 1.—**London.**—VARIOUS WORKS.—The Metropolitan Asylums Board invites tenders for various works. Drawings and specifications from Mr. T. Cooper, Engineer-in-Chief, Embankment, E.C.4. Deposit £1.

SEPTEMBER 2.—**Edinburgh.**—HOUSES.—Erection of 19 blocks of dwelling-houses at Gorgie, for the T.C. Mr. James A. Williamson, City Architect, Public Works Office, City Chambers, Edinburgh.

SEPTEMBER 2.—**Leicester.**—ALTERATIONS.—Alterations to the Station Post Office. Deposit £1 1s. The Secretary, H.M. Office of Works, Storey's Gate, Westminster, S.W. 1.

SEPTEMBER 3.—**East Barnet.**—HOUSES.—Erection of about 108 houses on Nickells Field Estate, for the U.D.C. Mr. T. A. Buckley, Clerk, Council Offices, Station-road, New Barnet. Deposit £2 2s.

SEPTEMBER 3.—**Nottingham.**—HOUSES.—Erection of 200 houses on the Gordon-road and Carlton-road sites, for the T.C. Housing Surveyor, Trinity-square, Nottingham. Deposit £1 1s.

SEPTEMBER 3.—**Whitland.**—COTTAGE, &C.—Erection of manager's cottage and farm building at Tynewydd, Whitland, Carmarthenshire, for the C.C. Small Holdings Architect, Shire Hall, Carmarthen.

*SEPTEMBER 4.—**Ham, Surrey.**—HOUSES.—Erection of 20 houses at Ham, for the U.D.C. Clerk's Office, 16, The Green, Richmond, Surrey.

SEPTEMBER 4.—**Hammersmith.**—ADDITION.—Erection of an additional story to the workshops and accumulator room at the Electricity Works, for the B.C. Borough Engineer, Hammersmith, W. 6.

SEPTEMBER 4.—**Llandovery.**—ALTERATIONS, &C.—Alterations and repairs, together with painting and decorating Salem Congregational Chapel throughout, as well as the installation of heating apparatus. Mr. J. Owen Parry, architect, Ammanford.

SEPTEMBER 4.—**London.**—ADDITIONS.—Proposed garage at Great Church-lane Depot, Hammersmith. Mr. L. Gordon, Town Clerk, Town Hall, Hammersmith, W.

SEPTEMBER 4.—**New Romney.**—PAINTING.—Repainting and other repairs to the Town Hall and Assembly Rooms, for the T.C. Mr. W. Lamacraft, Town Clerk, Town Hall, New Romney.

SEPTEMBER 6.—**Audenshaw**—HOUSES.—Erection of 50 houses, for the U.D.C. Messrs. Lindley & Gibson Market-avenue, Ashton-under-Lyne. Deposit £2 2s.

SEPTEMBER 6.—**Bradford.**—PAINTING.—Painting &c. (1) Kirkgate Market: External painting, shop fronts; (2) Rawson-place Market: External painting; (3) James-street Market: Internal and external painting. City Architect, Town Hall, Bradford.

SEPTEMBER 6.—**Daventry.**—WINDOWS.—Removal of 15 old windows and substitution of new windows at the workshop of the Board of Guardians. Master, at the Workhouse, Daventry.

SEPTEMBER 6.—**Kensington.**—Erection of a cleaning station, for the Royal Borough. Borough Engineer and Surveyor, Town Hall, Kensington High-street. Deposit, £2 2s.

*SEPTEMBER 6.—**Southend-on-Sea.**—TEMPORARY WOODEN BUILDINGS.—Erection and completion of a wood frame temporary building, to be used as a school clinic, adjoining Victoria-avenue. Borough Engineer, Mr. R. H. Dyer, M.Inst.M. and Cy., E., Municipal Buildings. Deposit, £1.

SEPTEMBER 6.—**Wealdstone.**—HOUSES.—Erection of (a) 16 houses in Montrose-road, and (b) 23 non-parlour houses in Montrose-road, for the U.D.C. Mr. H. Walker, Council Offices, Wealdstone. Deposit £2 2s.

SEPTEMBER 6.—**Weybridge.**—HOUSES.—Erection of 100 houses, for the U.D.C. Deposit £2 2s.

SEPTEMBER 6.—**Weymouth.**—HOUSES.—Erection of five pairs of semi-detached cottages in the parish of Preston, for the R.D.C. Mr. G. A. Andrews, 157, Dorchester-road, Weymouth. Deposit £1 1s.

SEPTEMBER 7.—**Bethnal Green.**—ALTERATIONS.—Dividing, for isolation purpose, one of the large wards in Infirmary, Cambridge-road, E. 2, into six smaller wards. Deposit £1. Mr. C. Faulkner Jones, Clerk to the Guardians, Bishop's-road.

SEPTEMBER 7.—**Bethnal Green. E.**—Repainting and renovating certain parts of the interior and exterior of the schools, High-road, Leytonstone. Mr. C. Faulkner Jones, Clerk to the Guardians, Guardians Offices, Bishop's-road, Bethnal Green, E. 2. Deposit £5.

SEPTEMBER 7.—**Bethnal Green.**—PAINTING.—Painting interior of laundry at Waterloo House, for the Board of Guardians. Mr. C. F. Jones, Clerk, Guardians Office, Bishop's-road, Bethnal Green, E.

SEPTEMBER 7.—**Herne Bay.**—PAINTING, &C.—For cleaning, painting and repairs at St. Anne's Home, Herne Bay, for the Met. Asylums Board. Office of the Board, Embankment, E.C. 4. Deposit £1.

SEPTEMBER 7.—**London and Dartford.**—VARIOUS WORKS.—(1) Additional covering-in to yard at the Mead Ambulance Station, Fulham; (2) alterations to entrance at the South-Western Ambulance Station, London-road, S.W.; (3) New iron fencing at Long Reach Extension Hospital, Dartford; (4) repairs to roads at the North-Eastern Fever Hospital, St. Ann's-road, South Tottenham, N.15, for the Met. Asylums Board. Office of the Board, Embankment, E.C. 4. Deposit £1 1s. each work.

SEPTEMBER 7.—**Maldon.**—HOUSES.—Erection of 6 houses at Steeple, 20 at Goldhanger and 28 at Tollesbury, for the R.D.C. Mr. Almond, surveyor, 6, Market-place, Maldon, Essex.

SEPTEMBER 8.—**London.**—Erection of alternatively one or five electric light sub-stations on the Wormholt Housing Estate, Ducane-road, W. 12. Mr. R. Hampton Lucas, M.Inst.C.E., Borough Engineer and Surveyor, Town Hall, Hammersmith, W.

SEPTEMBER 8.—**Todmorden.**—HOUSES.—Erection of 12 houses, for the T.C. Borough Engineer, Municipal Offices, Rise-lane, Todmorden.

SEPTEMBER 9.—**Bermondsey.**—FLATS.—Erection of flats on the Silver-street area site, for the B.C. Mr. F. Ryall, Town Clerk, Town Hall, Spa-road, Bermondsey, S.E. 16.

SEPTEMBER 9.—**Bradford.**—BOILER HOUSE—Erection of boiler-house, &c., for the Electricity Dept. Mr. T. Roles, City Electrical Engineer, Bradford. Deposit £2 2s.

*SEPTEMBER 9.—**London.**—BUILDING.—Forming caretaker's quarters at the Guardian's Offices, Ufford-street, Blackfriars, S.E. Mr. A. Saxon Snell, 9, Bentinck-street, W. 1. Deposit £1.

*SEPTEMBER 9.—**Mile End Old Town.**—Adaptation and conversion of twelve dormitories and other rooms in the Eastern block, for the Guardians of the Poor of the Hamlet of Mile End Old Town. Mr. Edmund J. Harrison, Lic.R.I.B.A., No. 23, Berkeley-road, Crouch End, N. 8.

SEPTEMBER 9.—**Warsop.**—HOUSES.—Erection of 112 houses, for the U.D.C. Messrs. Vallance & Westwick, White Hart Chambers, Mansfield. Deposit £2 2s.

SEPTEMBER 13.—**Ashbourne.**—DEPOT, ETC.—Erection of Depot Buildings and one pair of cottages on County Council's site at Ashbourne. Mr. J. W. Horton, County Surveyor, County Offices, St. Mary's Gate, Derby.

*SEPTEMBER 13.—**Bromley.**—Addition to bay window to Superintendent Nurse's Quarters, and the addition of a bay window and the conversion of a room to form a nurses' sitting-room, for the Guardians of the Bromley Union. Mr. F. Danby Smith, architect, Parliament Mansions, Victoria-street, S.W. 1.

SEPTEMBER 13.—**Ellesmere.**—HOUSES.—Erection of 24 houses on various sites in the Rural District. Messrs. Berrington, Son, and Watney, Prudential Chambers, Wolverhampton. Deposit £2 2s.

SEPTEMBER 13.—**London.**—CONSTRUCTION OF ENGINE HOUSE.—Chief Engineer's Dept., Metropolitan Water Board, 173, Rosebery-avenue, E.C.1. Deposit £5.

SEPTEMBER 13.—**Woolwich.**—ENGINE HOUSE, &C.—Erection of engine house, cottage, &c., at Shooter's-hill, Woolwich, for the Metropolitan Water Board. Offices of the Board, Chief Engineer's Department, 173, Rosebery-avenue, E.C. 1. Deposit £5.

SEPTEMBER 14.—**Elstree.**—HOUSES.—Erection of 20 houses at Watling-street. Deposit £2 2s. Mr. H. W. Poole, Clerk to the U.D.C., 93, High-street, Barnet.

SEPTEMBER 15.—**Bermondsey.**—PAINTING.—Repair and repainting works at the Public Libraries, Spa-road and Tooley-street, S.E., for the B.C. Mr. F. Ryall, Town Clerk, Town Hall, Spa-road, S.E.

*SEPTEMBER 15.—**Chiswick.**—Erection of four blocks of four flats each, one block of two flats (two at Thames-road and three at Paxton-road), for the District Council. Surveyor, Town Hall, Chiswick.

SEPTEMBER 15.—**Easingwold.**—HOUSES.—Erection of 20 houses at Easingwold, 3 at Tollerton and 8 at Skipton, for the R.D.C. Mr. H. Walker, High-street, Easingwold. Deposit £1 1s.

*SEPTEMBER 15.—**Surrey.**—COTTAGES.—Erection of three workmen's cottages at Bagshot, Surrey. County Surveyor, County Hall, Kingston-on-Thames. Deposit £1 1s.

SEPTEMBER 16.—**Greenwich**—ADAPTATION.—Adaptation of premises in Maze-hill, for the purposes of a Maternity Centre, for the B.C. Town Clerk, Town Hall, Greenwich. Deposit £2 2s.

*SEPTEMBER 16.—**Windlesham.**—DWELLINGS.—Erection of 24 dwellings, with roads, fences, drains and contingent works, to be constructed on a site fronting the Guildford-road, Bagshot Surrey. Messrs. Thorp & Claypole, architects, 47, Victoria-street, Westminster, S.W. 1. Deposit £2 2s.

SEPTEMBER 18.—**Enfield.**—CONVENIENCE.—Erection of two public conveniences, for the U.D.C. Surveyor, Public Offices, Enfield.

*SEPTEMBER 21.—**Whitchurch.**—HOUSES.—Erection of 50 houses, for the R.D.C. Mr. Geo. Allen architect, 435, Strand, W.C. 2. Deposit £1 1s.

FURNITURE, MATERIALS, etc.

AUGUST 30.—**Stockton-on-Tees.**—STORES.—Supply of stores to the Corporation. Borough Surveyor, the Gas Manager, and the Electrical Engineer, Borough Hall, Stockton-on-Tees.

SEPTEMBER 3.—**Luton.**—FURNITURE.—Supply of school furniture to the Education Committee. Mr. P. J. Carter, Education Sec., 3, Manchester-street, Luton.

✱SEPTEMBER 13. — **Sevenoaks.** — Granite, tar macadam and dehydrated tar, for the U.D.C. Mr. E. Pawley, surveyor, Argyle-road, Sevenoaks.

SEPTEMBER 14.—**Manchester.**—TRAMWAY MATERIALS. — Supply of (a) steel girder tramway rails; (b) permanent way special track work. Mr. J. M. McElroy, General Manager, Corporation Tramways, 55, Piccadilly, Manchester. Deposit £1 1s.

SEPTEMBER 18.—**Tetbury.**—ROAD MATERIAL.—Supply of road materials to the U.D.C. Mr. T. V. H. Davison, Surveyor, Urban District Council Offices, Tetbury, Glos.

ENGINEERING, IRON AND STEEL.

AUGUST 31.—**Bridgend.**—ELECTRICAL WIRING, ETC.—For the electrical wiring and fittings for Bridgend Market. Dunraven Estate Office, Bridgend.

AUGUST 31.—**Dublin.**—TUNNEL.—Construction of a tunnel under the River Liffey from Ringsend to East Wall, for the Electricity Committee. City Electrical Engineer, Fleet-street, Dublin. Deposit £3 3s.

SEPTEMBER 1.—**Southampton.**—CRANE.—Supply of an electric travelling crane to lift from 30 cwt. to 2 tons, for the T.C. Mr. J. A. Crowtner, Borough Engineer, 123, High-street, Southampton.

SEPTEMBER 2. — **Manchester.** — REFRIGERATING MACHINES.—Supply and erection of one ammonia compressor, with motor and fittings, for the Smithfield Cold Stores, and supply and erection of one enclosed circular brine cooler and one air cooler evaporator, with pumps, motors, and other fittings, for the Elm-street Cold Stores, for the T.C. General Superintendent, Markets Department, Town Hall, Manchester.

SEPTEMBER 6.—**Newcastle-on-Tyne.**—Quay.—Construction and maintenance of a reinforced concrete quay in the Hennebique system, 665 feet in length, on the River Tyne, for the T.C. City Engineer, Town Hall, Newcastle-upon-Tyne. Deposit £3 3s.

SEPTEMBER 6.—**Southampton.**—QUAY.—Strengthening the outer corners of the Town Quay, Southampton, for the Harbour Board. Engineer, Harbour Offices, Town Quay, Southampton. Deposit, £1.

SEPTEMBER 7.—**London.**—BRIDGE WORK.—The South Indian Railway Company invite tenders for the supply of bridgework (10 spans 47 ft. each, deck type, plate girders, about 128 tons). Company's offices, 91, York-street, Westminster, S.W. 1. Charge 10s.

SEPTEMBER 7.—**London.**—QUAY, &c.—Construction of quay and the foundations of a warehouse, consisting of reinforced concrete piling, concrete quay wall, Up-filling, &c., for the Butler's Wharf Co. Messrs. D. & C. Stevenson, 84, George-street, Edinburgh. Deposit £2 2s.

SEPTEMBER 7.—**London.**—WEIGHBRIDGE.—Providing and fixing a new 20-ton weighbridge at Caterham Mental Hospital for the Metropolitan Asylums Board. Office of the Board, Embankment, E.C.4. Deposit £1.

SEPTEMBER 8.—Madras.—PIPES.—Supply of about 220 tons of cast-iron socket and spigot pipes, together with special castings, sluice valves, &c., for the Corporation. Messrs. James Mansergh & Sons, Agents to the Corporation of Madras, 5, Victoria-street, Westminster, S.W. Charge 5s.

SEPTEMBER 8.— **Manchester.** — FENCING. — For wrought-iron fencing on site of Cavalry Barracks, Hulme, for the T.C. City Engineer's Office, Town Hall, Manchester. Deposit £1 1s.

✱SEPTEMBER 8. — **Wandsworth.** — HOT WATER SUPPLY.—For new water supply to tower tank at St. James' Infirmary, Ouseley-road, Balham, S.W. 12. Clerk to the Wandsworth Union, St. John's-hill, Wandsworth, S.W. 18.

SEPTEMBER 13.—**Langley Moor.**—BRIDGES.—Renewal of the Boyne Bridge, over the Main-road at Langley Moor, near Durham, and for the supply of steelwork for the renewal of part of the bridge over the Birtley Ironworks Lines, near Birtley, for the North Eastern Railway Co. Mr. C. F. Bengough, Company's Engineer, York.

SEPTEMBER 14.—**Glasgow.**—PIPES.—Supply of 100 tons of cast-iron pipes to the T.C. Mr. J. R. Sutherland Engineer, Water Dept., 45, John-street, Glasgow.

SEPTEMBER 20.—**Grimsby.**—HEATING, ETC.—Installation of a central heating and hot water system for the Institution of the Board of Guardians, and for the provision of a Water Softening Plant. Mr. J. F. Wintringham, Clerk, St. Mary's Chambers, Great Grimsby.

SEPTEMBER 21. — **Hammersmith.** — STEELWORK.—Supply and fixing steelwork in stanchions and roof trusses of garage at Great Church-lane depot, Hammersmith, for the B.C. Mr. R. Hampton Clucas, Borough Engineer, Town Hall, Hammersmith.

SEPTEMBER 23.—**Stoke-on-Trent.**—STEAM ROLLER.—Supply of 10-ton steam road roller, with scarifier. Mr. A. Burton, Borough Surveyor, Town Hall, Stoke-on-Trent.

SEPTEMBER 30.—Australia.—PIER.—Construction of ocean pier for the Manly Municipality, New South Wales. Messrs. Gordon & Gotch, 16, St. Bride-street, E.C.

ROAD, SANITARY, AND WATER WORKS.

AUGUST 28.—Maldon.—WATER-MAIN. — Providing and laying 185 yards of 3-inch cast-iron water-main for the T.C. Borough Engineer, Municipal Offices, Maldon.

AUGUST 28.—**Wombwell.**—ROADS.—Construction of the sewers, surface water drains, manholes, and road-work, in connection with the erection of 54 houses, for the U.D.C. Mr. W. Quest, Surveyor, Town Hall, Wombwell. Deposit £1 1s.

AUGUST 30.—Cowes.—ROAD.—Construction of 36 ft. road, for the U.D.C. Mr. S. E. Tomkins, "Kensington." Mill-hill, Cowes.

AUGUST 30.—**Inverkeithing.**—ROADS, ETC.—Road-making and sewerage works at "Spencerfield," Inverkeithing, for the T.C. Messrs. Williamson & Reid, architects, Inverkeithing. Deposit £1 1s.

AUGUST 31.—**Caerphilly.**—ROADS, ETC.—Construction of roads and sewers in connection with the housing schemes at The Grange, Caerphilly, and Llwyncelyn, Nelson, for the U.D.C. Mr. T. H. Richards, Surveyor, Council Offices, Caerphilly. Deposit £2 2s.

AUGUST 31.—**Kingston-upon-Thames.**—ROADS AND SEWERS.—Construction on the Borough Council's housing site of roads and sewers. Town Clerk, Clerk's Office, Kingston-upon-Thames. Deposit £2 2s.

AUGUST 31.—**Mull.**—ROADS.—Paving 5,000 lineal yards of the public highway from Salen to Bunessan, in the island of Mull. Mr. D. Cattanach, Mull District Surveyor, Tobermory.

AUGUST 31.—**Wakefield.**—BOWLING GREEN.—Construction of bowling green, Brook House W.M.C., Sandal, Wakefield. Mr. J. Perkin, Secretary to the Club.

SEPTEMBER 2.—**Wishaw.**—ROADS, ETC.—Construction of new roads, sewers, water and gas mains, etc., for the T.C. Messrs. Carter & Wilson, 51, Queen-street, Edinburgh. Deposit £1 1s.

SEPTEMBER 2.—**Yorkshire.**—SEWERS, ETC.—Formation of roads and construction of sewers in connection with the housing scheme of the T.C. Burgh Engineer's Office, Johnstone. Deposit £1 1s.

SEPTEMBER 3.—**Hammersmith.**—PAVING.—Paving the carriageway of Askew-road with creosoted deal blocks. Mr. R. Hampton Clucas, Borough Engineer, Town Hall, Hammersmith, W. 6.

SEPTEMBER 3.—**Mansfield.**—SEWERS.—Construction of about 1,800 yards of 30in. and 36 in. diameter concrete tube sewer, 750 yards of 15 in., 18 in. and 21 in. diameter pipe sewer, &c., in Chesterfield-road and Cock-lane, for the T.C. Mr. Waude Thompson, Borough Engineer, Market-street, Mansfield. Deposit, £2 2s.

SEPTEMBER 4.—**Rotherham.**—SEWAGE DISPOSAL.—Construction of two 80ft. diameter filters, humus tanks, &c., at the Catcliffe Sewage Works, together with the laying of certain drains, inspection chambers, &c., for the R.D.C. Mr. C. O. Rawstron, Engineer, R.D.C. Offices, Imperial Buildings, Rotherham. Deposit £1 1s.

SEPTEMBER 6.—**Evesham.**—ROADS, ETC.—Construction of road and sewers in connection with housing scheme of the R.D.C. Mr. R. J. Atkinson, Surveyor, Union Offices, Evesham. Deposit £1 1s.

SEPTEMBER 6.—**Hawarden.**—SEWERAGE.—For sewerage disposal works of housing scheme at Abermorddu, for the R.D.C. Messrs. Elliott & Brown, Burton Buildings, Nottingham. Deposit £2 2s.

SEPTEMBER 6.—**Morley.**—SEWERS.—Sewering portion of Daisy Hill, for the T.C. Mr. F. Turner, Borough Engineer, Town Hall, Morley.

SEPTEMBER 6.—**Worsley.**—SEWER. — Construction of 390 yards of sewer, etc., for the U.D.C. Mr. J. Howard, Surveyor, Town Hall, Walkden.

SEPTEMBER 10.—**Earby.**—ROADS, &C.—Construction of roads and sewers in connection with housing scheme for the U.D.C. Mr. Jas. E. Aldersley, Surveyor, Council Offices, Earby. Deposit £2 2s.

SEPTEMBER 18.—**Enfield.**—PUBLIC CONVENIENCES.—Erection of public conveniences for the U.D.C. Surveyor to the Council, Public Offices, Enfield.

Auction Sales, Tenders, &c.

AUGUST 28.—East Retford, Notts.—Messrs. Henry Spencer & Sons will sell at their saleroom, The Square, Retford, a freehold dwelling-house and business premises.

SEPTEMBER 1 AND 2.—Messrs. Joseph Hibbard & Sons will sell by order of the Board of Trade at the timber depot at Bylaugh, 3 miles from East Dereham Station, the well-cut stock of English timber. Auctioneers, Newington Green, Islington, London, N1.

SEPTEMBER 2.—Messrs. J. Hibbard & Sons will include in their sale at Bylaugh Estate, by order of the Board of Trade, nearly new saw mill plant. Auctioneers, Newington Green, Islington, N. 1.

SEPTEMBER 2.—**Sheffield.**—Messrs. Crampton, Son & Clements will sell at New Electric Power Station, Blackburn Meadows, Sheffield, surplus plant. Auctioneers, West Gate, Mansfield.

SEPTEMBER 8. — **Longleat and Shearwater.** — Messrs. J. Hibbard & Sons will sell, upon the sites of the Canadian Lumber Camps, plant and stock of three saw-mills, timber stock, hutments and stabling. Auctioneers, Newington-green, Islington, N. 1.

SEPTEMBER 9.—**Henfield, Sussex.**—Messrs. Harry Jas. Burt will sell the surplus stock-in-trade and plant of a builder at above address (within 3 minutes' walk of Henfield Station, L.B. & S.C. Rly.). Auctioneers, Steyning, Sussex.

SEPTEMBER 14.—**Swaything, near Southampton.**—Messrs. Ryder, Bowyer & Lane will sell by direction of the Disposal Board, 48 corrugated iron hutments. Auctioneers, 23, High-street, Southampton.

SEPTEMBER 16.—**London, E.C. 4.**—Messrs. Butcher & Co. will sell at 155, Queen Victoria-street, E.C. 4, stock-in-trade of ironmongers' and builders' merchants. Auctioneers, 63 and 64, Chancery-lane, London, W.C. 2.

SEPTEMBER 21. — **Purfleet.** — Mr. Ed. R. Porter will sell, by direction of the Disposal Board, Ministry of Munitions, at the Military Hospital, Purfleet, buildings, fittings, &c. Acutioneer, New-road, Grays.

SEPTEMBER 22. — **Tewkesbury.** — Messrs. Bruton Knowles & Co., by order of Messrs. Thomas Walker & Sons, surplus machinery, tractors and wagons. Auctioneers, Albion Chambers, Gloucester.

✱SEPTEMBER 27—**London, E.C.**—Messrs. Toplis & Harding will sell at Winchester House, Old Broad-street, E.C., a freehold estate, situate Mile End Old Town, E. Auctioneers, 28, Old Jewry, E.C.

SEPTEMBER—**Norwood, S.E.**—Messrs. Geo. Trollope & Sons will sell, by order of the Trustee, the freehold building estate known as Falkland Park. Auctioneers, 25, Mount-street, London, W.1.

OCTOBER 13.—**London, S.W.**—Messrs. Geo. Trollope & Sons will sell, at Winchester House, E.C., the valuable freehold property situate 130, Brompton-road, and Nos. 2, 4, 6, 8, Montpelier-street, S.W. Auctioneers, West Halkin-street, Belgrave-square, S.W.1.

✱OCTOBER 14.—**Hanover-square.**—Messrs. Knight, Frank & Rutley will sell a freehold island estate situate Euston-road, at the Hanover Estate Room. Auctioneers, 20, Hanover-square, W. 1.

LATE AUTUMN.—**London.**—Messrs. Knight, Frank & Rutley will sell by direction of the Council of H.R.H. the Prince of Wales, K.G., in the Hanover-square Estate Room, a freehold estate in Kennington. Auctioneers, 20, Hanover-square, W.1.

Competitions.

(See Competition News, page 221.)

Public Appointments.

AUGUST 28.—**Grays, Essex.**—General Foreman required to take charge of the erection of houses, for the U.D.C. Mr. C. James, Surveyor to the Council, District Council Offices, Grays.

AUGUST 28.—**London.**—TEACHERS.—Building Construction, Architectural Drawing. Salary £225 per annum. Masonry and Building Construction. Salary £275 per annum. Education Officer (T. 1A), Education Offices, Victoria Embankment, W.C. 2.

AUGUST 28. — **Southend-on-Sea.** — FIRST-CLASS TOWN-PLANNING ASSISTANT.—Salary, £350 per annum. R. H. Dyer, Borough Engineer.

AUGUST 28.—**Stafford.**—Improver for Drawing Office. Salary £100, plus Bonus £110 total £210 per annum. Architect, County Education Offices.

AUGUST 30.—**Brentford.**—Clerk of Works for the Union. Salary £10 10s. per week. Clerk to the Guardians, Union Offices, Isleworth, Middlesex.

AUGUST 30.—**London.**—Assistant to Administrator. Applications to the Administrator of Housing Development Schemes, County Hall, Spring Gardens, S.W. 1.

AUGUST 30.—**Wolverhampton.**—CLERK OF WORKS. —Salary £6 per week. Messrs. Berrington, Son & Watney, Prudential Chambers.

SEPTEMBER 1.—**Cardiff.**—Two District Works Inspectors. Salary £300. Building Inspector. Salary £300. C. G. Brown, Town Clerk, Cardiff City Council.

SEPTEMBER 1.—**Grays.**—Architectural Assistant for the U.D.C. Salary £300 per annum. Mr. A. C. James, surveyor, Council Offices, Grays.

SEPTEMBER 1. — **Littlehampton.** — CLERK OF WORKS.—Salary, £5 per week. A Shelley, Clerk to the U.D.C.

SEPTEMBER 3.—**Exeter.**—Architectural Assistant. Salary £260 per annum. Mr. J. Bennett, City Architect, Muncipal Offices.

✱SEPTEMBER 6TH.—**Gibraltar.**—Clerk of Works and General Assistant for the Sanitary Commissioners Crown Agents for the Colonies, 4, Millbank, S.W. 1. quoting M/10153.

SEPTEMBER 7.—**Durham.**—Draughtsman (Senior Grade), Draughtsman (Junior Grade), Quantity Surveyor's Assistant (Grade 1), Accounts Clerk required by the County Council. Director of Education, Shire Hall, Durham.

✱SEPTEMBER 9.—**Bognor.**—CLERK OF WORKS.—Salary £6 6s. per week. Joseph Jubb, Clerk to the Urban District Council.

✱SEPTEMBER 10.—**Salford.**—Head of Building and Civil Engineering Department, for the Education Committee. Salary scale, £400–£600 per annum. Mr. R. Martin, secretary, Education Offices, Salford.

SEPTEMBER 13.— **York.** — Assistant Architect. Secretary, North-Eastern Railway, York.

✱SEPTEMBER 15.—**West Riding County.**—Heating and Engineering Assistant for the E.C. Total salary £402 per annum. The Acting Education Architect, County Hall, Wakefield.

SEPTEMBER 24. — **Durham.** — Heating Engineer. Salary £450 per annum. Director of Education, Shire Hall, Durham.

SEPTEMBER 27. — **Kingston-upon-Thames.** — Instructor in building construction. Mr. E. T. Roberts, B.A., Principal, Technical Institute.

SEPTEMBER 29. — Warwick. — County Architect required by the County. Salary £800 a year. Office, staff, motor cycle and sidecar supplied, and reasonable travelling expenses. Clerk to the Council, Leamington.

✱NO DATE.—**Chatham.**—Cement Analyst. Superintending Civil Enginer, H.M. Dockyard.

✱NO DATE.—**Federated Malay States.**—Engineering Draughtsman for the Government. Salary 450 dollars per month, with a temporary War Bonus of 20 per cent. Crown Agents for the Colonies, 4, Millbank, S.W. 1, quoting M/FM.S. 9520.

✱NO DATE.—**Glasgow.**—Drawing Office Assistant, Officer in Charge of Works, Admiralty Central Offices. Brown-terrace, Dowanhill.

✱NO DATE.—**Hornsey.**—Manager for the Government Instructional Factory. Salary £500 per annum. B. S. Gott, Divisional Director of Training, Guildhall, Westminster, S.W.1.

✱NO DATE.—**Ireland.**—Civil Engineering Draughtsman required in Naval Establishment. Superintending civil engineer, H.M. Dockyard, Haulbowline.

PRICES CURRENT OF MATERIALS.*

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.—Ed.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge. £ s. d.

Best Stocks 4 16 0

Per 1000, Delivered at London Goods Stations.

	£ s. d.		£ s. d.
Flettons	3 7 0	Best Blue Pressed Staffordshire ...	10 6 0
Best Stourbridge Fire bricks	11 15 0	Do. Bullnose ..	10 8 6
		Blue Wire Cuts	8 8 6
GLAZED BRICKS—			
Best White, Ivory, and Salt Glazed Stretchers ..	27 10 0	D'ble Str'tch'rs	35 0 0
		D'ble Headers	32 0 0
Headers	27 0 0	One Side and two Ends ..	36 0 0
Quoins, Bullnose and 4½in. Flats	33 0 0	Two Sides and one End	34 10 0
		Splays and Squints.....	34 10 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours, Hard Glaze, £5 10s. extra over white.

	s. d.	
Thames Ballast	20 6	per yard, delivered
Pit Sand	24 6	
Thames Sand	26 6 „ „	2 miles
Best Washed Sand	25 6 „ „	radius
½ in. Shingle for Ferro-Concrete	24 6 „ „	Paddington.
¼ in. „ „	25 6 „ „	

Per ton, delivered in London area.

	£ s. d.		£ s. d.
Best Portland Cement	4 4 6 ..	4 10 0	

77/6 alongside at Vauxhall in 80-ton lots.

Ferrocrete per ton extra on above. 10 0

Best Ground Blue Lias Lime 2 19 6 at rly. depot.

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks. The sacks are charged at 2s. 6d. each and credited at 2s. each if returned in good condition within three months.

Grey Stone Lime ..... 70s. 0d. per ton delivered.

Stourbridge Fireclay in s'cks 43s. 6d. per ton at rly. dpt.

STONE.

	s. d.
BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R.. per ft. cube.....	2 10½
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R.. per ft. cube	3 0½
Do. do. delivered on road waggons at Nine Elms Depot	3 1½
PORTLAND STONE—	
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L.& S.W.R., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 7
Do. do. delivered on road waggons at above stations, per ft. cube..	4 8
White basebed, 3d. per ft. cube extra.	
NOTE.—½d ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft.	
YORK STONE, BLUE—*Robin Hood Quality.*	
Delivered at any Goods Station London.	s. d.
Scappled random blocks .....Per Ft. Cube	16 4
6 in. sawn two sides landings to sizes (under 30 ft. super.) .....Per Ft. Super	11 4½
6 in. rubbed two sides, ditto ..... „	12 9½
3 in. sawn two sides slabs (random sizes) „	5 1
2 in. to 2½ in. sawn one side slabs (random sizes) ..... „	3 0
1½ in. to 2 in. ditto, ditto ..... „	2 7
HARD YORK—	
Delivered at any Goods Station London.	
Scappled random blocks .....Per Ft. Cube	12 3
6 in. sawn two sides landing to sizes (under 40ft. super.) .....Per Ft. Super	9 9
6 in. rubbed two sides ditto ..... „	11 7
4 in. sawn two sides slabs (random sizes) „	4 7
3 in. ditto, ditto „	5 11½
2 in. self-faced random flags ..Per Yard Super	14 8

WOOD.

GOOD BUILDING DEAL.

Inches	£ s.	
4 × 11	67 10	per standard
4 × 9	67 10	„
4 × 8	60 0	„
4 × 7	50 0	„
3 × 8	4 10	„
3 × 7	47 10	„
2½ × 7	47 10	„
3 × 6	45 0	„
5 × 11	65 0	„
2 × 11	65 0	„
3 × 9	57 10	„
2½ × 9	57 10	„
3 × 4½	47 10	„
3 × 4	47 10	„

PLANED BOARDS.

4 × 11	67 10	„
1 × 9	65 0	„

PLAIN EDGE FLOORING.

Inches		
¾	40/-	square
1	45/-	„
1	52/6	„
1¼	66/-	„
1½	75/6	„

TONGUED AND GROOVED FLOORING.

Inches		
1	52/-	square
1¼	65/-	„
1½	75/-	„

WOOD (*Continued*).

MATCHINGS (BEST).

Inches		
½	36/-	square
¾	42/6	„
1	54/-	„

BATTENS.

Inches	£ s.	
¾ × 2	45 0	per standard

SAWN LATHS.

Per bundle	0 6 0	
Dry Wainscot Oak, per ft. super, as inch	0 3 6 to 0 4 0	
½ in. do. do.	0 3 0 .. —	
Dry Mahogany—Honduras, Tabasco, African, per ft. super, as inch	0 2 6 to 0 3 0	
Cuba. Mahogany	0 4 0 to 0 4 6	
Teak (Rangoon, Moulmein or Java), per load.. ..	75 0 0 to 85 0 0	
American Whitewood planks, per ft. cube ..	0 18 0 to 1 4 0	
Scotch Glue, per cwt.	10 0 0 .. —	
Liquid Glue, per cwt.....	6 12 0 .. —	

SLATES.

1st quality slates from Bangor or Portmadoc in truck load delivered London area. Per 1,000 of 1,200.

		£ s. d.
Best Blue Bangor Slates,	24 by 12	56 10 0
„ „	22 by 12	46 0 0
First quality „	22 by 11	42 10 0
„ „	20 by 12	42 0 0
Best Blue Portmadoc	20 by 10	36 10 0
„ „	18 by 10	29 10 0
First quality „	18 by 9	24 5 0
„ „	16 by 10	22 15 0
„ „	16 by 8	18 0 0

TILES.

	Per 1,000 f.o.r. London. £ s. d.
Best machine-made tiles from Broseley or Staffordshire district.....	6 15 0
Ditto hand-made ditto.....	7 5 0
Ornamental ditto	7 2 6
Hip and valley tiles (per dozen)	0 15 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION PER TON—

	£ s. d.
R. S. Joists, cut and fitted	38 0 0
Plain Compound Girders	42 0 0
„ Stancheons	44 0 0
In Roof Work	48 0 0

WROUGHT-IRON TUBES AND FITTINGS—

(Discount off List for lot of not less than £15 net value delivered direct from works. 5 per cent. less above gross discounts, carriage forward if sent from London stocks.)

	Sizes up to and including ⅜ in. Tubes.	Fittings.	Sizes up to and including 2in. Tubes.	Fittings.	2½ in. to 6 in. Tubes.	Fittings.
Gas	+ 7½	+ 5	— 5	— 2½	— 17½	
Water	+17½	+15	Net	+ 6½	— 15	
Steam....	+24½	+26½	+ 5	+ 16½	— 12½	
Gal.Gas....	+32½	+30	+ 5	+ 22½	— 7½	
„ Water	+45	+42½	+ 10	+ 33½	— 5	
„ Steam	+57½	+55	+ 15	+ 45	— 2½	

L.C.C. COATED SOIL PIPES—London Prices ex works.

	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles. s. d.
2 in. per yd. in 6 fts..	6 4	4 6	5 5
2½ in. „ ..	7 3½	4 11½	6 9
3 in. „ ..	9 0½	5 5	8 1½
3½ in. „ ..	10 0	6 9	9 5½
4 in. „ ..	10 11½	7 8	10 9½

RAIN-WATER PIPES, &c.

	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles. s. d.
2 in. per yd. in 6fts. plain	5 6	3 0	4 0
2½ in. „ „ ..	6 0	3 6	5 0
3 in. „ „ ..	7 2	4 4	6 8
3½ in. „ „ ..	8 8	5 4	7 9
4 in. „ „ ..	9 8	6 4	9 4

L.C.C. DRAIN PIPES.—9 ft. lengths. London Prices. 4 in., 13/6 .. 5 in., 15/6. .. 6 in.. 19/11.

	Per ton in London. £ s. d.		£ s. d.
IRON—			
Common Bars	34 10 0	to	35 10 0
Staffordshire Crown Bars good merchant quality	35 0 0	..	37 0 0
Staffordshire "Marked Bars"	36 10 0	..	38 10 0
Mild Steel Bars	36 0 0	..	38 0 0
Steel Bars. Ferro-Concrete quality, basis price ..	36 0 0	..	38 0 0
Hoop Iron, basis price ..	44 0 0	..	46 0 0
„ „ Galvanised ..	62 0 0	..	66 0 0
Sheet Iron Black—			
Ordinary sizes to 20 g. ..	50 0 0	..	52 0 0
„ „ 24 g. ..	51 0 0	..	53 0 0
„ „ 26 g. ..	53 0 0	..	55 0 0
Sheet iron, Galvanised flat, ordinary quality—			
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g. ..	58 0 0	..	60 0 0
Ordinary sizes to 22 g. and 24 g.....	59 0 0	..	61 0 0
Ordinary sizes to 26 g. ..	61 0 0	..	62 0 0
Ordinary sizes to 20 g. .. „ „ 22 g. and 24 g.	58 0 0	..	60 0 0
	59 0 0	..	61 0 0
Ordinary sizes to 26 g. ..	61 0 0	..	62 0 0

METALS (*Continued*).

	Per ton in London £ s. d.		£ s. d.
Galvanised Corrugated Sheets—			
Ordinary sizes, 6 ft. to 8 ft. 20 g.....	60 0 0	..	62 0 0
Ordinary sizes, 22 g. and 24 g.....	61 0 0	..	63 0 0
Ordinary sizes, 26 g.	62 0 0	..	65 0 0
Sheet Iron, Galvanised, flat, best quality—			
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker.....	60 0 0	..	62 0 0
Best Soft Steel Sheets, 22 g. and 24 g.....	61 0 0	..	63 0 0
Best Soft Steel Sheets, 26 g.	63 0 0	..	64 0 0
Cut Nails, 3 in. to 6 in.	47 10 0	..	48 10 0

(Under 3 in. usual trade extras.)

LEAD, &c.

	Delivered in London. £ s. d.		
LEAD Sheet, English, 4 lb. and up	52 0 0	..	—
Pipe in coils	52 10 0	..	—
Soil Pipe	55 0 0	..	—
Compo pipe	56 0 0	..	—

NOTE—Country delivery, 30s. per ton extra; lots under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 1s. cwt. extra.

Old lead, ex London area, at Mills ..... per ton	32 0 0	..	—
Do., ex country, carriage forward..... per ton	33 0 0	..	—
COPPER—			
Strong Sheet ....per lb.	0 2 3	..	—
Thin „ .... „	0 2 4	..	—
Copper nails .... „	0 2 3	..	—
Copper wire .... „	0 2 4	..	—
TIN—English Ingots „	0 2 9	..	—
SOLDER—Plumbers' „	0 1 6	..	—
Tinmen's „	0 2 0	..	—
Blowpipe ..... „	0 2 7	..	—

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES

	Per Ft.		Per Ft.
15 oz. fourths	8d.	32 oz. fourths	11d.
„ thirds	8½d.	„ thirds	1/-
21 „ fourths	9d.	Fluted, Obscured and	
„ thirds	9½d.	Enamelled Sheet,	
26 „ fourths .. .	10d.	15 oz.	10d.
„ thirds	11d.	21 „	1/-

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per Ft.
⅛ Rolled plate	6½d.
3/16 Rough rolled and rough cast plate.....	7½d.
¼ Rough rolled and rough cast plate.....	8½d.
Figured Rolled, Oxford Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish white	7½d.
Ditto, tinted	9½d.
Rolled Sheet	7d.
White Rolled Cathedral.....	7d.
Tinted do.	9d.

PAINTS, &c.

	£ s. d.
Raw Linseed Oil in pipes..... per gallon	0 8 4
„ „ „ in barrels .... „	0 8 6
„ „ „ in drums .... „	0 8 8
Boiled „ „ in barrels .... „	0 9 0
„ „ „ in drums .... „	0 9 2
Turpentine in barrels ..... „	0 12 10
„ in drums (10 gall.) .. „	0 13 4
Genuine Ground English White Lead, per ton	81 10 0
(In not less than 5 cwt. casks.)	
GENUINE WHITE LEAD PAINT—	
"Father Thames," "Nine Elms," "Park," "Supremus" and other best brands (in 14 lb. tins) not less than 5 cwt. lots .....per ton delivered	112 0 0
Red Lead, Dry (packages extra) .. per ton	60 0 0
Best Linseed Oil Putty ..... per cwt.	1 7 0
Filocol..... per cwt.	1 0 6
Size. X D Quality..... fkn.	0 5 9

VARNISHES, &c.

	Per gallon. £ s. d.
Oak Varnish.....Outside	0 18 0
Fine ditto ..... ditto	1 0 0
Fine Copal ..... ditto	1 1 0
Pale Copal ..... ditto	1 2 6
Pale Copal Carriage ..... ditto	1 4 6
Best ditto ..... ditto	1 14 6
Floor Varnish..... Inside	0 19 0
Fine Pale Paper ..... ditto	0 18 0
Fine Copal Cabinet ..... ditto	1 2 6
Fine Copal flatting ..... ditto	1 0 6
Hard drying Oak ..... ditto	0 18 0
Fine Hard drying Oak ..... ditto	0 19 0
Fine Copal Varnish ..... ditto	1 0 6
Pale ditto ..... ditto	1 2 6
Best ditto ..... ditto	1 14 6
Best Japan Gold Size.....	0 16 6
Best Black Japan	1 0 9
Oak and Mahogany Stain (water)	0 17 6
Brunswick Black	0 11 9
Berlin Black.....	0 19 9
Knotting (patent)	1 18 6
French and Brush Polish	1 14 0
Liquid Driers in Terebine	0 16 0
Cuirass Black Enamel	0 7 6

* The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

CURRENT PRICES FOR BUILDING WORK IN LONDON.

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	24	0
Add if in clay	" "	2	0
Add for every additional depth of 6 ft.	" "	1	6
Planking and strutting to trenches	per foot super	0	7½
Do. to sides of excavation, including shoring	" "	1	6

CONCRETOR.

		s.	d.
Portland cement concrete in foundation 1 to 6	per yard cube	54	0
Add if in underpinning in short lengths	" "	10	0
Add if in floors 6 in. thick	" "	4	0
Add if in beams	" "	5	0
Add if aggregate 1 : 2 : 4	" "	15	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	4	6

BRICKLAYER.

		£	s	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	48	10	0
Add if in stocks	"	12	10	0
Add if in Staffordshire blues	"	34	10	0
Add if in Portland cement and sand	"	4	15	0

FACINGS.

Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

Neat flat strucks or weathered joint	" "	0	0	3½

ARCHES.

Extra only to the price of ordinary brickwork :—				
Fair external in half brick rings	" "	0	1	0
Axed in stocks	" "	0	2	0
Rubbed and gauged jointed in putty camber or segmental	" "	0	7	0

SUNDRIES.

Damp course in double course of slates breaking joint and beaded in Portland cement	" "	0	1	8
Setting ordinary register grates and stoves	each	1	5	0
Setting kitchener, including fuming flues, &c., with all necessary fire bricks	"	6	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard sup.	9	0
Three-quarter-inch vertical damp course	" "	14	3
One inch on flats in two thicknesses	" "	12	0
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	6

MASON.

		s.	d.
York stone templates fixed	per foot cube	22	0
York stone sills fixed	" "	35	0
Bath stone and all labour fixed	" "	16	9
Portland stone fixed	" "	25	9

SLATER.

		s.	d.
Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	93	0
Do. 20 in. × 10 in. Do. Do.	"	115	0
Do. 24 in. × 12 in. Do. Do.	"	117	6

CARPENTER AND JOINER.

		s.	d.
Fir framed in plates	per foot cube	9	6
Do. joists	" "	10	6
Do. roofs, floors and partitions	" "	11	9
Do. trusses	" "	14	0

		¾″	1″	1¼″	1½″
Deal rough close boarding	per sq.	60/-	81/-	100/-	108/-

		s.	d.
Flat centering for concrete floor, including struts or hangers	"	68	0
Do. to beams	per ft. sup.	1	10
Centres for arches	"	2	4
Gutter boards and beams	"	1	9

FLOORING.		¾″	1″	1¼″	1½″
Deal-edges shot	per sq.		82/-	104/-	120/-
Do. tongued and grooved	"		88/-	110/-	127/-
Do. matchings	"	74/-	89/-		
Moulded skirting, including backings and grounds	per ft. sup.	2/4	2/8	3/2	3/8

SASHES AND FRAMES.		s.	d.
One-and-a-half moulded sashes or casements	per foot super	2	0
Two Do. Do. Do.	" "	2	6
Add for fitting and fixing	" "	0	6
Deal-cased frames with 1 in. inner and outer linings, 1¼ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares double hung, double hung with pulleys, lines and weights ; average size	" "	5	6

DOORS.		1½″	1¾″	2″
Two-panel square framed	per ft. sup.	2/8	2/11	3/1
Four-panel Do.	"	3/-	3/4	3/7
Two-panel moulded both sides	"	3/4	3/7	3/10
Four-panel Do. Do.	"	3/8	3/11	4/2

CARPENTER AND JOINER—continued.

FRAMES.		s.	d.
Deal wrot moulded and rebated	per foot cube	22	0

		1″	1¼″	1½″
Plain deal jamb linings framed	per ft. sup.	2/3	2/5	2/9
Deal shelves and bearers	"	2/-	2/2	2/3
Add if cross tongued	"	2/-	2/-	2/-

STAIRCASES.		1″	1¼″	1½″	2″	2½″
Deal treads and risers in and including rough bracelets		3/4	4/-	4/8	—	—
Deal strings wrot in both sides and framed	"	4/6	4/9	—	—	—

		s.	d.
Housings for steps and risers	each	1	0
Deal balusters, 1 in. × 1¼ in.	per ft. run.	0	9
Mahogany handrail ; average 3 in. × 3 in.	" "	6	3
Add if ramped	" "	12	6
Add if wreathed	" "	25	0

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).			
6 in. barrel bolts	9d.	Rim locks	2/6
Sash fasteners	1/-	Mortice locks	5/6
Casement fasteners	1/6	Patent spring hinges and letting in to floor and making good	20/-
Casement stays	1/3		
Cupboard locks	1/6		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	43	0
Plain compound girders	"	47	0
Do. stanchions	"	49	0
In roof work	"	53	0

RAIN-WATER GOODS.

		3″	4″	5″	6″
Half-round plain rebated joints	ft. run	2/-	2/6	3/9	4/3
Ogee Do. Do.	"	2/6	3/3	4/-	5/-
Rain-water pipes with ears	"	2/11	3/9		
Extra for shoes and bends	each	4/7	6/3		
Do. stopped ends	"	2/-	2/6	3/9	4/3
Do. nozzles for inlets	"	2/3	2/9	4/-	4/6

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	83	0
Do. Do. in flats	"	78	0
Extra labour and solder in coated cesspools	each	8	0
Welt joint	per ft. run.	0	6
Soldered seam	" "	2	3
Copper nailing	" "	0	8

		½″	¾″	1″	1½″	2″	4″
Drawn lead waste	per ft. run	1/2	1/11	2/3	4/-	5/-	
Do. service	"	1/10	2/5	3/-	4/9		
Do. soil	"						8/-
Bends in lead pipe	each					4/-	10/-
Solderer's stop ends	"	1/6	2/-	2/6	3/6	4/3	
Red lead joints	"	1/1	1/4	1/7	2/4	3/-	6/-
Wiped soldered joints	"	3/6	4/3	5/-	6/-	8/-	12/-
Lead traps and cleaning screws	"				18/-	24/-	
Bib cocks and joints	"	7/6	11/3	18/-	48/-		
Stop cocks and joints	"	18/-	20/-	30/-	75/-		

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	3	4
Do. Do. siripite	" "	3	9
Do. Do. Keen's	" "	5	0
Add sawn lathing	" "	2	0
Add metal lathing	" "	3	0
Portland cement screed	" "	3	0
Do. plain face	" "	4	6
Mouldings in plaster	per 1 girth	0	3
One-and-a-half granolithic pavings	per yard sup.	6	9

GLAZIER.

		s.	d.
21 oz. sheet plain	per foot sup.	1	10
26 oz. Do.	" "	2	0
Obscured sheet	" "	2	3
⅛ in. rolled plate	" "	1	3½
¼ in. rough rolled or cast plate	" "	1	4½
¼ in. wired cast plate	" "	1	9½

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	1	6
Knotting and priming	" "	1	0
Plain painting 1 coat	" "	1	6
Do. 2 coats	" "	2	4
Do. 3 coats	" "	3	2
Do. 4 coats	" "	4	0
Graining	" "	3	0
Varnishing twice	" "	2	6
Sizing	" "	0	4
Flatting	" "	0	9
Enamel	" "	2	0
Wax polishing	per foot sup.	0	11
French polishing	" "	1	9
Preparing for and hanging paper	per piece	2/- to 5/-	

PROPOSED NEW BUILDINGS AND OTHER WORKS.*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works, at the time of publication, have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council.

BIRMINGHAM.—The Housing Committee has decided to allow an addition to the Weemen-street Gospel Hall, and alterations to the Trees Hotel, Bath-road, to be proceeded with.

DUNDEE.—Plans passed: Offices, &c., East Dock-street, for Cooper & Greig, Ltd.; alterations, High-street, Loches, for J. R. Ingram; house, Park-road, Downfield, for Grant, Morimer and David B. Soutar; Garage and office, Queen-street, Broughty Ferry, for R. G. M'Glashan; house, Shaftesbury-road, for John Cree.

GLASGOW.—Linings granted for the Dean of Guild Court: Grindlay, Ross & Co., Ltd., Reid-street, Bridgeton, to erect buildings in Reid-street, Bridgeton; Bromwell Patents Co., Ltd., 64, Darnley-street, to erect buildings and others in Darnley-street; Corporation of Glasgow, to erect temporary housing accommodation on ground in Bilsland Drive, Kilmarnock-road, and Rosebery and Dalmeny-streets; P. and W. MacLellan, Ltd., 129, Trongate, to erect a store at 41, East Vermont-street, Kinning Park; J. Fletcher, music seller, 618, Eglinton-street, to erect a bungalow in Fernleigh-road; G. and J. Burns, Ltd., shipowners, 30, Jamaica-street, to make alterations at 85, Clyde-street, Anderston; The Scottish Veterans' Garden City Association (Public Utility Board or Housing Trust), 2, Castle-street, Edinburgh, to erect 14 double cottages at Crosby-street, Maryhill; Miss A. B. Green, 50, Melville-street, Edinburgh, to make alterations at 1, 2, and 3, Park-terrace; Harland and Wolff, Ltd., shipbuilders, Govan, to erect engineering works in Helen-street, Govan; Corporation of Glasgow, to erect an electrical sub-station in Cadogan-street.

GODSTONE.—Plans for a new stand at Lingfield Racecourse have been passed by the R.D.C.

LUDDENDEN FOOT.—At a cost of £450, the War Memorial Committee have decided to place an obelisk, of local stone, in a roadside park at Bar Wood.

MEXBOROUGH.—Final approval has been received by the Council for the erection of 286 dwellings, and tenders are to be invited at once. Among those who are expected to submit tenders is the Manchester Building Guild.

SLOUGH.—Additions to the rear of 88, High-street, for Mr. C. Sangster, and bungalow in Upton-road for Mr. A. S. Soutter.

SOUTHEND-ON-SEA.—Plans approved by T.C.:—Additions, "Highlands," Cliff-parade, for Messrs. E. and V. Beecroft; sanitary improvements, London-road for Feast & Co., (Motors), Ltd.; conservatory, "Kent House," London-road, for Mr. A. Baker; alterations and additions, 344, London-road, for Mr. F. C. Davis; garage, 408, Westborough-road, for Mr. F. R. Simpson; garage, 24, London-road, for Mr. W. B. Tattersall; lavatory accommodation, Leigh-hill, for Messrs. Powling Bros.; alterations, 40B, Marine-parade, Southend, for Mr. T. Gawley; conversion of two shops into one, 41 and 42, Marine-parade, Southend, for Mr. L. Greenwood; bungalow, Sutton-road, for Mr. R. Starling; bungalow, Nelson-road, for Mr. H. Lummis; conversion of houses into shops, 26–36, Alexandra-street, for Messrs. Prevost & Baerselmann; conversion into shops, "Beach House," Hamlet Court-road, for Mr. W. H. O. Ainslie.

WINDLESHAM.—The Windlesham U.D.C. has for some time had under consideration the advisability of constructing sewerage and sewage disposal works for the inhabited portions of their district, including Bagshot, Windlesham, Lightwater, etc. It has been decided to have a scheme prepared to embrace all these districts, and Major T. J. Moss Flower, of 28, Victoria-street, Westminster, S.W., and Bristol, has been entrusted with the work.

FIRES.

CROYDON.—A fire at the Wilton Carriage Company's Works caused damage exceeding £20,000.

PONTEFRACT.—Damage to the extent of over £40,000 has been caused by a fire at the malt kilns of Messrs. W. J. Robson, Ltd., at Whitley Bridge, near Pontefract.

Mr. Albert C. Liddard, timber merchant, of 27, Eastbourne-terrace, Paddington, W., has been joined in partnership by Mr. P. Brett Sands, with whom he has been associated for over fifteen years. A private limited company, which will be known under the style of "Liddard & Sands, Ltd.," has been formed, of which they are the sole directors, and until City premises are obtained the business will be carried on at the same address as heretofore.

* See also our List of Competitions, Contracts, &c.

NEW COMPANIES.

THE particulars quoted below have been compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, of 116 & 117, Chancery-lane, W.C. 2, from the documents available at the Companies' Registry.

THOMAS VARLEY & SON, LTD. (168,309). Registered June 15. Builders and contractors. Nominal capital, £5,000.

WALTER E. ISLEY, LTD. (167,424). Registered May 13. 1, Candahar-road, Battersea, S.W. Builders and contractors. Nominal capital, £2,000.

WELDED CONSTRUCTION, LTD. (168,425). Registered June 19. 14–16, Cockspur-street, London. Builders and contractors. Nominal capital, £10,000.

WEST & BROOKS (LEYTON), LTD. (168,115). Registered June 8. 59, First Avenue, Walthamstow, E. 17. Builders and contractors Nominal capital, £1,000.

WIMBLEDON, MERTON AND DISTRICT CO-OPERATIVE BUILDING ASSOCIATION, LTD. (167,670). Registered May 21. 51, Kingston-road, Wimbledon, S.W. 19. Contractors' and builders' engineers. Nominal capital, £5,000.

ROBERT WEARE & CO., LTD. (167,784). Registered May 27. 30, Simpson-street, Liverpool. Cabinet makers, joiners, builders, &c. Nominal capital, £2,000.

MARK WARRINGTON, LTD. (167,947). Registered June 2. Newton Saw Mills, Lodge-lane, Hyde, Cheshire. Builders and contractors. Nominal capital, £5,000.

SPRINGHEAD STONE CO., LTD. (168,210). Registered June 11. Mumps Station Stoneyard, Mumps, Oldham. Nominal capital, £1,500.

MARKLEW & RABBETTS, LTD. (168,546). Registered June 24. 68A, Ansley-road, Branksome, Dorset. Builders and contractors Nominal capital, £2,000.

MERSEYSIDES CONSTRUCTION CO., LTD. (168,705). Registered June 30. 14, Cooke-street, Liverpool. Builders and contractors. Nominal capital, £1,000.

NETHERFIELD CONTRACTING CO., LTD. (168,672). Registered June 29. Engineers and contractors. Nominal capital, £1,000.

GUICHARDS, LTD. (168,722). Registered July 1. 54, Myddleton-street, Clerkenwell, E.C. Jewel and plate-glass makers, window fittings, shop fronts, &c. Nominal capital, £10,000.

CONCRETE DWELLINGS (BELGIUM), LTD. (168,658.) Registered June 29. 5 and 6, Great Winchester-street, E.C. 2. Constructional engineers, builders and contractors. Nominal capital, £10,000.

"The Municipal Year-Book."

After a lapse of five years, owing to war conditions, *The Municipal Year-Book* (Sardinia House, Sardinia-street, W.C., price 21s. net) has now resumed publication, and the 1920–1921 edition has been issued. The book has been re-written and brought up to date, and most of the main features of the earlier editions have been retained. Full lists are included of the local authorities in the United Kingdom, with the names and addresses of the officers and members of council, and information is given relating to the work carried out by the local authorities.

"No Rent" Strike in Scotland.

As a protest against the increase of rent permitted under the new Rent Restrictions Act, a 24-hour strike took place in the industrial areas of Scotland on Monday last. Many mass meetings were held, and resolutions were passed pledging those present to do all in their power to compel the repeal of the section of the Act which permits rents to be increased above the pre-war level.

The "Ideal" Central Heating System.

An inspection of the "Ideal" house-heating system (illustrated and described in our issue for July 30 last) is to be held at Mr. Macey's new building, Queen's-drive, Thames Ditton, on Monday next, August 30. The fireplace is now half built, and, therefore, convenient for the inspection of the inside arrangements.

TRADE NEWS.

One of the results of the increased cost of paper and printing has been a considerable reduction both in the number and size of trade catalogues. Messrs. B. Finch & Co., Ltd., the well-known manufacturers of sanitary goods, of 82, Belvedere-road, Lambeth, S.E. 1, have, however, produced a new catalogue which is quite up to the pre-war standard; the paper is good, and it is profusely illustrated. Some fifteen different patterns and types of w.c.'s are illustrated, and also a large variety of seats, cisterns, pans and fittings for the same. In the section devoted to lavatories, the types shown range from excellent single-bowl Sicilian marble stands to troughs suitable for institutions where large numbers wash at one time, and between these extremes are many lavatory basins suitable for the type of house now being erected on housing schemes. There are also illustrated three designs of lavatories which, when not in use, can be folded up against the wall, presenting the appearance of a neat polished-wood cabinet. Baths, shower-baths and sinks of every description are shown, and also urinals, manhole covers and frames and public conveniences. Hot-water tanks and cylinders, a boiler, radiators, steam towel-rails and steam traps are included in the "Hot-water and Heating Section," and a further section deals with sanitary appliances specially designed for hospitals, sanatoriums and similar institutions.

Owing to the increase of their business in special machinery, concrete mixers, hoists, cranes, tar-macadam plant, concrete block machines, road rollers, &c., Messrs. Builders' & Contractors' Plant, Ltd., have removed to larger premises at 15, Victoria-street, Westminster. 'Phone: Victoria 5347; telegrams: "Exoistrol London."

Mr. G. C. Ratcliff, West of England manager to Messrs. Sterns, Ltd., Royal London House, Finsbury-square, E.C., has now taken up his headquarters at 45, Effingham-road, St. Andrews Park, Bristol. Telephone No. 4349.

The Tyre-fitting Department of the Leyland & Birmingham Rubber Co., Ltd., in Duke-street, Aldgate, undertakes to fit motor lorries with new sets of "Palatine" tyres at short notice, the lorries being ready to take the road again in 24 hours.

PATENTS.

APPLICATIONS PUBLISHED.*

133,696.—K. S. Haines: Take-down stanchions.

144,173.—F. A. Petts and F. Braby & Co.: Revolving cowls for chimneys and ventilating shafts.

144,193.—W. Wilson: Manufacture of reinforced concrete or cement beams.

144,210.—L. W. Hughes: Packing cases.

144,342.—W. P. Thompson (Arentox Co.): Protection of fire-proofing wood and other materials.

144, 350.—H. A. Heard: Appliance enabling the tunnel or air-chamber of boilers used in cooking-ranges and fire-grates for circulating hot water to be cleaned when the range or grate is in use without drawing or disturbing the fire.

144,377.—C. P. Love'l: Building blocks or bricks.

144,378.—C. P. Lovell: Building blocks.

144,389.—A. J. Dunn: Concrete and the like structures.

144,394.—H. Addison: Construction of floors.

144,414.—B. Fullwood: Construction of concrete buildings and structures.

144,426.—R. Neilson: Construction of reinforced-concrete pipes, conduits, and the like.

144,439.—W. J. Panton and J. F. Ward: Fixing parts of furniture handles and the like, and the manufacture of same.

* All these applications are now in the stage in which opposition to the grant of Patents upon them may be made.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach him *not later than first post on Wednesday.*

* Denotes *accepted.* † Denotes *provisionally accepted.*

‡ Denotes *recommended for acceptance.*

§ Denotes *accepted subject to modifications.*

BILLERICAY.—The following tenders for the erection of cottages for the R.D.C. have been forwarded to the Ministry of Health :—

Cronin & Son, 6 houses	£6,269
Nevard, 16 houses	18,226
Pitcher Construction Co., 16 houses	22,269
Ditto, 16 houses	19,591
Shepherd & Son, 8 houses	11,904

CHESTERFIELD.—For erection of new out-patient's department, at the Chesterfield Royal Hospital :—

*Maule & Co., Nottingham	£33,250 0 0
Dawson & Jones, Sheffield	34,850 0 0
Collis & Sons, Chesterfield	38,450 17 6
W. Appleby, Nottingham	44,100 0 0

HULL.—For (*a*) erection of two temporary class-rooms at Hymer's College, and (*b*) for foundations, heating chamber, drainage and water supply at the College, for the T.C. :—

*(*a*) D. Rowell & Co.	£197
(*b*) G. Houlton & Son	240

HULL.—For heating and hot water service at Marlborough Terrace Cleansing Station, for the T.C. :—

*Rosser & Russell	£664

ILFORD.—For painting the exterior of the Highands and Loxford Schools, for the E.C. Mr. Herbert Shaw, M.Inst.C.E., engineer :—

*Myall Bros., Ilford	£450 0 0 / 465 0 0
E. H. Richardson, Canning Town	682 18 0 / 630 15 0
British Renovating Co., Ltd., Canning Town	879 9 2 / 952 14 7
F. Bull, Upper Clapton	— — — / 889 0 0
T. Duggan, Ilford	902 12 9 / 828 6 5

LISKEARD.—For erection of two cottages at No Man's Land, for the R.D.C. Mr. C. W. Parkes Lees, architect, Fowey :—

*Wm. Taylor, Looe	£1,725

LONDON (WANDSWORTH).—For external painting, repairs, etc., at Tooting Special Surgical Neurological Hospital, Church-lane, Tooting, S.W.17, for the Wandsworth Union :—

*J. Sands, Tooting	£723 0 0
British Renovating Co., Ltd., Canning Town	1,165 9 6
Sims & Sims, Gloucester Gate	1,196 0 0
R. Haslam & Son, Woolwich	1,280 16 0
A. Phelps & Wilton, Streatham	1,295 0 0
F. C. Flack, Southfields	1,310 0 0
W. Fitch, Brixton	1,405 0 0
S. T. Wright, Kennington	1,588 0 0
T. Sheppard & Co., Clapham	1,640 5 0
A. Pitkin, Fulham	1,750 0 0
C. Pugh, Denmark Hill	1,898 0 0
Bowen & Charman, Cranleigh, Surrey	2,050 10 0

LONDON (WANDSWORTH).—For painting, etc., at St. James' Infirmary, Ouseley-road, Balham, S.W.12, for the Wandsworth Union. :—

*R. Haslam & Son, Woolwich	£2,158 0
S. T. Wright, Kennington	2,190 0
F. C. Flack, Southfields	2,375 0
A. Pitkin, Fulham	2,600 0
British Renovating Co., Ltd., Canning Town	3,309 15
A. Phelps & Wilton, Streatham	3,450 0
Sims & Sims, Gloucester Gate	3,485 0
W. Fitch, Brixton	3,932 0
C. Pugh, Denmark Hill	4,370 0
Bowen & Charman, Cranleigh, Surrey	5,730 10

SALFORD.—For (*a*) painting at Regent-road baths, and (*b*) painting at Pendleton baths, for the T.C. :—

*(*a*) H. W. Morton	£126
*(*b*) Kitchen & Son	115

SALFORD.—For decoration of the Assembly Room, &c., at Pendleton Town Hall, for the T.C. :—

*Taylor & Ingham	£520

SHOEBURYNESS—For painting two gas holders, for the U.D.C. :—

*W. G. Beaumont & Son, Priory Works, Bow, E.	£79

STIRLING.—For the erection of fifty pairs of houses at the Shiplaugh site, for the T.C. :—

*B. Reynolds & Son and D. & J. Gardner (*Brickwork*)	£35,374 15 0
*Fairful, Wilson & Somers (less 2 per cent.) (*Joiner*)	28,787 18 8½
*Archibald Walls (less 2½ per cent.) (*Glazier*)	564 9 10
*Milne & Co. and A. Oswald & Son (*Slater*)	5,099 0 4
*Robert Frater and D. C. Hardie (*Plumber*)	15,442 2 0
*Alexander Walls (*Plaster*)	8,680 14 1
*Alexander Walls (*Cement and rough cast*)	3,815 15 10
*W. & T. Marshall and Lockhart & Macnab (*Electric Light*)	1,626 13 8
*G. Henderson & Son and J. & D. Smith	3,330 19 9
	£102,722 9 2½

SOUTHEND-ON-SEA.—Supply of 345 ft. of concrete tubes, for the T.C. :—

*J. Ellis & Sons, Leicester	7s. 7d. per foot.

SOUTHEND-ON-SEA.—Supply of meter boards, for the T.C. :—

*W. Jay, Southend-on-Sea.	11,50 American white wood, £427 10s. ; 1,150 deal, £266 17s. 6d.

TAIN.—For the erection of 8 houses, for the T.C Mr. A. Gordon Maitland, architect, Tain :—

Alex. Corbett, Tain (*Mason*)	4 blocks (8 houses).
D. Mackenzie, Tain (*Carpenter*)	2 blocks (4 houses).
G. Ross, Tain (*Carpenter*)	2 blocks (4 houses).
M. Mackay, Tain (*Slater*)	4 blocks (8 houses).
G. T. Mackintosh, Tain (*Plumber*)	4 blocks (8 houses).
McLeod & Ross, Tain (*Plasterer*)	4 blocks (8 houses).
H. Ross, Tain (*Painter*)	4 blocks (8 houses).

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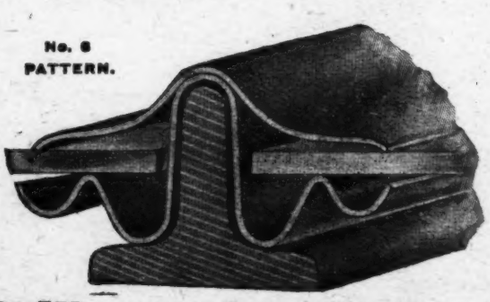

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